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Manufacturing and Wholesale Industries of Chicago



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Manufacturing and Wholesale Industries

THE INTERNATIONAL HARVESTER COMPANY

Amid all the changes and chances of this mortal life there is to the larger and surer vision no such thing as luck. No man achieves anything worthy until he learns the power of conviction and, appreciative thereof, bends his energies to the accomplishing of a definite purpose. The world has known and valued its benefactors and in time has placed true estimates upon the men who have lived and wrought for the betterment of all mankind. Plunged into the vortex of the greatest war in the annals of time, the world may well pause to give new recognition to those men who have attained to greater victories than those ever gained on the field of polemic conflict, in the destruction and sacking of cities, and in the ruthless elimination of human life. If material progress has had aught of significance it has found its great antagonist in the destructive element of warfare, and all that has been suffered and all that has been wrought in ancient or modern conflict between armed forces but throw into higher and stronger relief the saner and better achievement of those men who have given of themselves and their best ability to benignant furtherance of the happiness and wellbeing of human kind.

It may be said with full measure of consistency that of all the great institutions that have given industrial pre-eminence to Chicago there has been none that has been more ponderous and far-reaching in influence than that of which the late Cyrus Hall McCormick was the founder and which is today represented in the McCormick Works of the International Harvester Company. Brilliant and of universal interest is the "Romance of the Reaper," as written by Herbert N. Casson and published in 1908. In this splendid work tribute is paid to Cyrus H. McCormick as one of the greatest of the world's benefactors, and it could be wished that the limitations of the article here presented were not so circumscribed as to make possible more than a cursory review of the history of the McCormick Harvester, its inventor and all that they have signified in the deeper and truer scheme of human existence and in the defining of that worthy progress which is "man's distinctive mark alone." Pertinent and true, indeed, are the following statements: "The work of no other man, perhaps, has touched so closely the lives of all mankind as did that of Cyrus Hall McCormick, for agriculture is the basis of all business activity and material progress, and there is no civilized country today that has not felt in immeasurable degree the influence of his work upon agricultural development." It is a far cry from the sturdy young

farmer-inventor working under most primitive conditions in Virginia to perfect his invention to the comprehension of what that invention has meant to the world and to the incidental upbuilding of one of the greatest industrial institutions not only in Chicago but also in the entire world. From an interesting brochure issued by the International Harvester Company are taken the following extracts:

"The World's population is steadily increasing, but the land area remains fixed. It is only by increasing the crops that the world can be fed, and history proves this an impossibility without the use of improved machines. With practically the entire population on farms, the nation was underfed and wheat had to be imported as late as 1850. Virginia was the great wheat-raising state, and it was here that Cyrus Hall McCormick, after years of contriving and devising, invented a crude but effective reaper. The first factory was a blacksmith shop in which he used a flat stone for an anvil. That shop and anvil formed the nucleus of the present McCormick works. Nine years after this first reaper proved successful the young inventor sold one for fifty dollars; four years after he sold fifty reapers. The wheat belt was stretching westward, and Mr. McCormick saw that he would have to manufacture his reapers nearer to the market, so he came to Chicago, and in 1848, with the city's first mayor as partner, built five hundred machines. From that small beginning the McCormick plant has steadily developed until now it is the largest farm-machine factory in the world. It covers 229 acres, employs about 9,000 men and women, and has a capacity to produce 50,000 tons of twine and over 400,000 machines annually. This is equal to about 1,350 machines a day. During 1912, 17,000 carloads of goods were shipped from this plant,—equal to 130 miles of cars, or a train reaching from the McCormick works to Peoria, Illinois. The work which Mr. McCormick pioneered is being carried on and extended by the present extensive International Harvester Company organization." From the Casson "Story of McCormick" in his "Romance of the Reaper," are drawn, with minor elimination from the original text, the following statements:

"Altogether, in the two years after he left Virginia, McCormick sold 240 reapers. This was big business, but it was only a morsel in proportion to his appetite. Neither was it satisfactory. He cut the Gordian knot by building a factory of his own in Chicago. This was one of the wisest decisions of his life, though at the time it appeared to be a disastrous mistake. Chicago, in 1847, showed no signs of its present greatness. As a city it was a ten-year-old experiment, built in a swamp, without a railway or a canal. It was ugly and dirty, with a river that ran in the wrong direction; but it was *busy*. And, best of all, it was a place where a big new idea was actually preferred to a small old one. Chicago did not look at McCormick with dead eyes and demand a certified cheque from his ancestors. It sized him up in a few swift glances and saw a thick-set, ruddy man, with a physique of a heavy-weight wrestler, dark hair that glowed in glossy furrows, and strong eyes that struck you like a blow. It glanced at his reaper and saw a device to produce more wheat. More wheat meant more business, so Chicago said, 'Glad to see you. You're the right man and you're in the right place. Come in and get busy.' William B. Ogden, the first mayor of Chicago, listened to his story, then asked him how much he wanted for a half interest. McCormick had little money and no prestige. Ogden had a surplus of both. So a partnership

was arranged, and the new firm plunged towards prosperity by selling \$50,000 worth of reapers for the next harvest. At last there had come a break in the clouds, and McCormick found his path flooded with sunshine. He was no longer a wanderer in the night. He was the reaper King—the founder of a new dynasty. As soon as possible he bought out Ogden, and thenceforth established a one-man business. By 1851 he was making more than a thousand reapers a year, and owned one-tenth of the million dollars he had dreamed of in the Virginia wilderness. One of his reapers had taken the Grand Prize at a World's Fair in England. Even the London Times at first ridiculed his reaper as 'a cross between an Astley chariot, a wheelbarrow and a flying machine.' "It will be remembered that the American department was at first regarded as the poorest and least interesting of all foreign countries. Of late it has justly assumed a position of the first importance, as having brought to the aid our distressed agriculturists a machine, which if it realizes the anticipations of competent judges, will amply remunerate England for all her outlay connected with the great Exhibition." The Emperor desired to decorate Mr. McCormick while watching the machine perform at Chalons in 1867, but his lieutenant said this honor should await the general distribution, which was done. The award was by decree, January 4, 1868. There was a picture that some American-souled artist, when we have one, will delight to put on canvas. How splendid was the contrast, and how significant of the new age of democracy, between the saue and feeble emperor, enjoying the sunset rays of his inherited glory, and the strong-faced, rough-handed Virginian farmer, who had built up a new empire of commerce that will last as long as the human race eats bread." It may be said that under travail and discouragement was born an invention that was revolutionary in character, that has proved of enduring worth to the world's vast multitudes,—to "all sorts and conditions of men,"—that worthily enriched the one who made it possible, that developed the true elements of greatness in a great man, and that gave to Chicago in the pioneer period of her history an industrial enterprise that has continued to broaden in scope and beneficence with the passing years. With all of consistency it may be said that no one concern has contributed more to the civic and material development and progress of Chicago than that now represented in the McCormick Works of the International Harvester Company. The appreciative reader will in this connection take satisfaction in reading carefully also the adjunct article pertaining more specifically to the life record of Cyrus Hall McCormick,—an article that properly finds place in this publication,—and also to note that the sons of the distinguished inventor are well upholding the prestige of the family name, as public-spirited citizens and as dominating figures in connection with the executive and administrative affairs of the International Harvester Company.

"For fifty years the Harvester Kings fought one another in the open field of competition," says Casson, and "out of two hundred companies that went to battle with flags waving and drums beating, less than a dozen came home." It may well be said that the organization of the International Harvester Company was thus a matter of economic expediency rather than of desire on the part of the great manufacturing concerns of McCormick, Deering, Warder, Bushnell, Glessner & Company; the Osborne Company, and others. The combination now represents a union of thirteen industrial colonies, like the original United States.

Output of harvesting machines in 1907, about 676,000. In 1908, about 688,000. Output of all kinds of machines, 1907—997,481. 1908—956,688. Net earnings, \$8,885,682 in 1908. The "Romance of the Reaper" gives the following data and they are worthy of reproduction in this connection:

"With its 25,000 employes and 42,000 agents, this one company is supporting as many families as there are in Utah or Montana. A square mile of land would be too small to contain its factories. At its hundred warehouses there is trackage for 12,000 cars. Its properties are so sidespread that no member of the company has seen them all. To run around their circle would be a trip of 15,000 miles. It owns 20,000 acres of coal lands in Kentucky, 100,000 acres of trees in Arkansas, Mississippi and Missouri, and 40,000,000 tons of ore in the Wisconsin and Mesaba ranges. It has staked its money—\$120,000,000—upon the belief that for fifty years longer, at least, the scientists will find no substitute for bread.

"The fact that Elbert H. Gary, the official head of the Steel Trust, is one of its directors, has not prevented this self-sufficient company from owning a complete steel plant, where 2,000 Hungarians make iron from ore, and steel from iron. It saws its trees into lumber in Missouri, and roasts its coal into coke in Kentucky. Its domains are so extensive, in fact, that if they were contiguous they would make a Harvester City much greater than Greater Chicago. But the most surprising feature of this unique corporation, to one who sees it for the first time, is the distracting variety of things that pour out of its factories. Its business is by no means to make harvesters and nothing else. Its true character seems to be that of a manufacturing department store for farmers. As a matter of actual count, I found in its factories thirty-seven different species of machines, besides all manner of variations of each sort. . . . By its very nature this industry cannot be carried on in a small way. It is as essentially mutual and co-operative as life insurance or banking. It is the most comprehensive industry in the world. It is the link between the city and the farm. . . . It is at once a factory, a bank, and a university. Thus of necessity, the Harvester Company represents in the highest degree the new American way of manufacturing,—everything on a large scale, elaborate machinery, . . . and a vast surplus to drive it past failures and misfortune.

The organization of the International Harvester Company took place in the year 1902, and it is to be noted that Cyrus H. McCormick II is president of the great corporation, and Harold McCormick, vice-president. Stanley McCormick, the youngest of the three brothers, having recently retired from active interest in the business. As these sons of the founder of the McCormick Company have thus a large share in the control of the great amalgamated harvester company, so also do James Deering, son of William Deering, founder of the Deering Company, who is a vice-president of the corporation, as is also J. J. Glessner. William H. Jones died September 1, 1916. A fully open and justified combination is that represented in the International Harvester Company and its policies and business have challenged the closest investigation and met the same victoriously when there has been directed against it any measure of criticism as being a trust or a corporation countenancing any restraint of trade of legitimate competition. The company, as previously stated, represents an economic necessity, and Chicago is proud to have so large a share in its management and its centralized activities.



MCCORMICK REAPER WORKS BEFORE THE CHICAGO FIRE, NEAR RUSH ST. BRIDGE
Destroyed by fire in 1871



THE FIRST SUCCESSFUL REAPER, INVENTED BY CYRUS H. MCCORMICK IN 1831
AND PATENTED IN 1834

CYRUS H. McCORMICK

The name of the late Cyrus Hall McCormick shall enduringly stand forth as that of one of the world's great inventors and practical benefactors. By the power of colossal intellect and indomitable will he conquered the forces of adverse circumstances and brought forth an invention that gave wonderful impulse to human progress, suiting the rock of possibilities and causing the waters of prosperity and happiness to issue forth. This publication can indulge in no exhaustive genealogical record or offer the multitudinous and interesting data pertinent to the life and achievement of Mr. McCormick, but such is its assigned province that a brief review of the career of the great inventor and manufacturer is essential as a very part of the history of industrial and commercial enterprise that has conserved the upbuilding of the great western metropolis.

Cyrus Hall McCormick was born in Rockbridge County, Virginia, February 15, 1809, the eldest of the seven children of Robert and Mary Ann (Hall) McCormick.

He was a scion of the fourth generation of the family in America and was of staunch Scotch-Irish lineage, the original American progenitor having been his great-grandfather, Thomas McCormick, who came from Ulster County, Ireland, to this country in 1734; he became a resident of Pennsylvania and participated in the early conflicts with the Indians of that section. Robert McCormick, son of Thomas, was the founder of the family in Virginia and was a patriot soldier in the war of the Revolution. Originally Robert McCormick bought 500 acres from his father. Afterward he increased his holdings. At one time he owned 2,000 acres in Rockbridge and Augusta Counties, Virginia, and was one of the substantial and influential citizens of his community. Educational advantages are the aids not the creators of human intellect, and Cyrus Hall McCormick was one of those who marked a path of his own in his intellectual advancement, though his early scholastic advantages were necessarily circumscribed by the conditions of time and place. He early manifested a distinctive inventive genius. The home farm was provided with carpenter and blacksmith shops, and when about fifteen years of age young Cyrus showed the mechanical bent of his mind by making a grain cradle, which he often used in the harvest fields and thus became inured to the arduous toil from which his later inventions were destined to liberate thousands of his fellow men. His first invention of great practical utility was that of a hillside plow, which threw alternate furrows in the lower side, being thus a right and left hand plow at the will of the operator. This was patented in 1831, when the inventor was twenty-two years of age. Two years later he invented a superior horizontal, self-sharpening plow, but the great work of his life was to be the invention of the labor-saving reaper. Many attempts had previously been made to invent a machine for harvesting grain, but all had proved failures. The father of Mr. McCormick was among these experimenters, he having devised in 1816 a reaping machine which, while it failed of its purpose, served the greater one of awakening the observation of the precocious youth whose genius was to develop into that of one of the world's greatest inventors. That machine had upright revolving cylinders, provided at their base with appliances shaped like sickles. Mr. McCormick readily perceived that the principle adopted by his father in the latter's invention was fundamentally wrong. The quick intelligence

of young McCormick saw that instead of this arrangement there must be a horizontal reciprocating blade, operating on the grain in mass. His father discouraged him between the time of his first invention in 1831 and his first patent in 1834 because although the machine worked well it needed many improvements. The short time each harvest made this difficult. The father, because of his own experience, at this time had little faith in a reaping machine. After thinking out the details of his machine he transferred them to wood and iron. His first reaper contained a divider to separate the grain to be cut from that to be left standing, fingers or guards to hold the grain while being cut, a vibrating cutter to sever the grain, a platform to catch the falling grain, a master wheel and a side draught. The reel to draw the grain to the fingers and the knife was not added until after a first private trial on the home farm. The reel was attached a few weeks later at the first public trial on John Steele's place the same summer of 1831. In the summer of 1831, this machine drawn by two horses, was tested in a field of oats near the McCormick homestead, and proved a success. Thus, in that Virginia harvest field, this young inventor rendered it possible for the United States to become the great grain-producing country of the world. It was about this time that Mr. McCormick formed a partnership for the smelting of iron ore, which enterprise was disastrously affected by the panic of 1837 but which served to show the integrity and honor that afterward characterized his life.

He sacrificed most of his possessions and the family taxed its resources to the utmost to meet the obligations of the dishonesty of the partner of Robert and Cyrus McCormick, a Mr. Black, in assigning over his property to another, left the McCormicks to pay most of the debts of the firm. The reaper seemed the best source for recouping their fortunes. He improved his original machine and sold his first reaper in 1840, but his pathway was beset by various obstacles that would have proved insuperable to a man of less indomitable will. From the beginning, and for a long time afterward, Mr. McCormick was inconvenienced by lack of capital and by isolation from the centers of communication and trade. Then, again, laboring classes looked with suspicion upon all labor-saving machinery and naturally opposed Mr. McCormick's invention. Congress also refused to give him just patent protection, and he was thus confronted by a siege of opposition and discrimination. But he steadily surmounted these obstacles and successfully established his claims as a benefactor of the world. In an argument before the commissioner of patents, in 1859, the late Hon. Reverdy Johnson made the statement that Mr. McCormick had contributed an annual income to the whole country of fifty millions of dollars at least, which must increase through all time." About this time the late Hon. William H. Seward affirmed that "owing to Mr. McCormick's invention the line of civilization moves westward thirty miles each year." The facilities for the manufacture and sale of the reaper were so limited on the Virginia farm that, in 1846, Mr. McCormick had machines manufactured for him in Cincinnati in 1845-1848 and in Brockport, New York, in 1846-1848, having in the meantime secured a new patent upon improvements which greatly enhanced the value of the machine and increased the demand for the same. After 1860 he had skilled inventors whom he kept improving his reaper, with a view to attaining perfection. With remarkable prescience as to Chicago's becoming the center of the grain industry of the country, in 1847 Mr. McCormick removed to this city, and in the following year he erected substantial reaper works which for the



C. H. McCormick

harvest of 1848, five hundred machines were manufactured at Chicago. Enough were manufactured elsewhere to bring the total for 1848 to eight hundred, a great achievement in those days of meager facilities for iron and wood working. After establishing his reaper on a firm foundation in this country, Mr. McCormick proceeded to bring it to the attention of European agriculturists. He exhibited his reaper at the Great Exhibition of the Works of Industry of all Nations 1851, London, and conquered all prejudice, the "Council" medal having been awarded to him on the ground of the "originality and value of the reaper." From this moment fame and fortune for the great inventor were assured, waited at his call and poured their treasures at his feet. At the Universal Exposition in Paris, in 1855, his reaper secured for him the Grand Medal of Honor. In 1867 he again exhibited at the exposition held in Paris, and was not only awarded the Grand Prize, but he was made Chevalier of the Legion of Honor in 1868, for his valuable invention.

In 1871 the great Chicago fire brought about the destruction of the McCormick plant, but a new and larger manufactory was at once erected. The subsequent history of Mr. McCormick was but a continued repetition of his former triumphs. In 1878 he went to Paris for the third time to exhibit his reaper and binder at the exposition, and again he received the Grand Prize, and was made an officer of the Legion of Honor in 1878. At this time also he was elected a corresponding member of the French Academy of Sciences, in recognition of his "having done more for the cause of agriculture than any other living man." He was in time justly recognized as a universal benefactor of the human race, and his invention became known as a powerful factor in the development of the world's resources. It is worthy of notice, as displaying his ability to manage his great industrial business and his high regard for justice, that in the midst of general and disturbing labor agitations he had little trouble at his works. His employes recognized in him a man who was just in his dealings, liberal in rewards, and humane in his treatment of all under his authority. He was so conspicuously just that no one in sober judgment could possibly distrust him or fail to love him. He suffered great physical infirmity in the latter years of his life, but his mind never deviated from its usual strength, and he remained the active head of his great manufactory until his death, directing its operations to the last and continuing familiar with all its manifold details.

In the midst of all these material triumphs, Mr. McCormick was keenly alive to the interests of education and religion and was always loyal and insistent in his civic stewardship. In 1859, at the general assembly of the Presbyterian church, held at Indianapolis, he offered to endow four professorships of the Presbyterian Theological Seminary of the Northwest on condition that the seminary should be located in Chicago. These conditions were accepted, and, in addition to the original endowment, the institution received from Mr. McCormick numerous other magnificent donations. The seminary now bears his name and stands as a noble and enduring monument to his memory and his exalted character.

In 1858 was solemnized the marriage of Mr. McCormick to Miss Nettie Fowler, daughter of Melzar Fowler, of Jefferson County, New York, and of their four sons and three daughters, a son and a daughter died in infancy.

On the 13th of May, 1884, Cyrus Hall McCormick passed from the stage of life's mortal endeavors, and for all time must humanity pay to him and to his memory a tribute of veneration and honor.

CYRUS HALL McCORMICK, JR.

No position is more difficult, perhaps, than to stand in the colossal shadow of the dead. There are various institutions in which a name has come to stand for certain work, for certain characteristics and for certain brilliant achievement, and it is made to reflect against the individual who bears that name if his lines of life are not cast at least somewhat after the same pattern or in the same mold. Thoughtful consideration shows one that conditions change with each generation and that duties and obligations arise that were unknown to that younger generation. Cyrus Hall McCormick, Jr., belongs to that younger generation of business men of Chicago called upon to shoulder responsibilities differing materially from those resting upon their predecessors. In a broader field of enterprise they find themselves obliged to deal with affairs of greater magnitude, and to solve more difficult and complicated financial and economic problems. While he entered upon a business that was not only already established but had already reach mammoth proportions, he has met and solved new problems not the least of which were brought in the merging of the various manufacturing interests that are now conducted under the name of the International Harvester Company. He had received thorough business training under his father's guidance, leaving college to become a factor in the management of the McCormick interests. His birth occurred in Washington, D. C., May 16, 1859, when his parents were temporarily residing there. He was a pupil in the public schools of Chicago until graduated from the high school with the honors of his class, and then he entered Princeton University, being numbered among its alumni of 1879. In the fall of 1879 he became identified with the McCormick Harvesting Machine Company, filling various positions both in the manufactory and in the office, for it was the father's purpose as well as the son's desire that the latter should become thoroughly familiar with the business in every feature. Following the father's death in May, 1884, Cyrus Hall McCormick, Jr., was elected to the presidency of the company, thus continuing as its chief executive officer until 1902, when he was elected to the presidency of the International Harvester Company, which purchased the plant and business of the McCormick Harvesting Machine Company. With various financial enterprises he is officially connected, being a director of the Merchants Loan & Trust Company, the National City Bank of New York and the Chicago & Northwestern Railway. He is also a director of the McCormick Theological Seminary, the Field Museum of Natural History, and is a member of the Board of Trustees of Princeton University and of Lake Forest University. He is well known in club circles in both Chicago and New York. Among others, his membership being with the Chicago and University Clubs and the Chicago Athletic Association of the former city, and Metropolitan and University Clubs of New York. In 1889 he represented the McCormick Harvesting Machine Company at the Paris Exposition and was there decorated as *Officier du Merite Agricole*, a decoration rarely bestowed upon others than citizens of the French Republic. In 1900, as a representative of the McCormick Harvesting Machine Company at Paris Exposition, he received the decoration of *Officier du Legion d' Honneur*.

Shortly after the beginning of the war with Germany, Mr. McCormick was appointed Chairman of the Reception Committee for the city of Chicago on the

occasion of the visit of the French Commission, General Joffre, ex-Premier Viviani and others to that city.

Since then he has been appointed a member of the Root Commission representing the United States in Russia.

In 1899 Mr. McCormick was united in marriage to Miss Harriet Bradley Hammond, a niece of Mrs. Elizabeth Hammond Stickney, of Chicago. Their children are: Cyrus McCormick, III, born September 22, 1890; Elizabeth, who was born July 12, 1892, and died January 25, 1905; and Gordon McCormick, born June 21, 1894.

HAROLD FOWLER McCORMICK

Harold Fowler McCormick, the third son of Cyrus Hall McCormick, Sr., was born on the 2d of May, 1872, and prepared for his college training by study in the University School of Chicago and the Browning School of New York City, attending the latter from 1889 until 1891. He then entered the freshman class of Princeton University in the fall of the latter year and was graduated from the institution in 1895.

Before his graduation Mr. McCormick had already commenced to familiarize himself with the business of the McCormick Harvesting Machine Company. In August, 1896, he assumed control of the general agency at Council Bluffs, where he managed the company's business for the next year. He then entered the general offices of the company and was elected vice-president on the 4th of January, 1898, filling that position until the organization of the International Harvester Company, of which corporation he was chosen vice-president in 1902.

Mr. McCormick is a member of the Chicago and University Clubs of Chicago, the Chicago Athletic Association, the Onwentsia Club of Lake Forest, Illinois, and the University Club of New York City. He is a trustee of the University of Chicago, the McCormick Theological Seminary, and the Chicago Orchestral Association, and is also a director of the First National Bank of Chicago.

On the 26th of November, 1895, occurred the marriage of Harold Fowler McCormick and Miss Edith Rockefeller, a daughter of John D. Rockefeller, and unto them have been born five children, namely: John Rockefeller, born February 24, 1897, who passed away on the 2d of January, 1901; Harold Fowler, Jr., born November 15, 1898; Muriel McCormick, born September 10, 1902; Editha McCormick, born September 17, 1903, who died June 11, 1904; and Mathilde McCormick born April 8, 1905.

STANLEY McCORMICK

Stanley McCormick, the youngest member of the McCormick family, was born November 2, 1874 and supplemented his early educational training by study in the University School of Chicago and the Browning School of New York City. Upon leaving the latter institution he entered the freshman class of

Princeton University in the fall of 1891, and was graduated therefrom in 1895. He has since been actively identified with the McCormick interests and represented the McCormick Harvesting Machine Company at the Paris Exposition in 1900, where he received the decoration of Officer du Merite Agricole from the French government. Later he served in that company as superintendent of the works and has recently retired from active interest in the corporation.

On the 15th of September, 1904, Mr. McCormick was united in marriage to Miss Katherine Dexter, of Boston, a daughter of the late Wirt Dexter, an eminent lawyer of Chicago. In club circles Mr. McCormick is well known, holding membership in the Chicago, University, Saddle and Cycle and Union Clubs of Chicago, the Onwentsia Club of Lake Forest, Illinois, and the University Club of New York City. He is a trustee of the Art Institute of Chicago and a director of the Chicago Bureau of Charities.

ILLINOIS STEEL COMPANY

Of primary and most insistent relevancy to the industrial and general commercial history of the western metropolis is the record of the splendid corporation whose title initiates this article, and it is most gratifying to note that the general offices of this company are established in Chicago, at 208 South La Salle street, besides which the city claims also the company's South Works, at 3426 Eighty-ninth street; and the warehouse department, 1319 Wabansia avenue. These local institutions represent only a minor part of the great industrial enterprises controlled by this progressive corporation, which has become one of the most important in connection with the great iron and steel industry in America and controls large amalgamated interests in steel production. It would be difficult for one not familiar with details and technicalities to realize the multifarious agencies which have been brought to bear in this building up of an industry of magnificent scope and wide ramifications for this achievement has not only demanded maximum executive and administrative ability and utmost circumspection, but there has been required also scientific knowledge, initiative power and progressive policies. The great magnitude of the operations of the Illinois Steel Company can not be adequately shown forth within the limits of such a necessary circumscribed article as the one here presented, and the province of the publication implies that attention be given more specially to the corporation in its relations to the industrial and commercial activities of Chicago. Apropos of the status of this corporation are the following statements, which are well entitled to reproduction in this connection:

"Among the astonishing developments made in the American iron trade has been that effected by the Illinois Steel Company in its appearance as a serious competitor for business in the world's markets. Although its various works are nearly one thousand miles distant from the Atlantic seaboard, being located on the shores of Lake Michigan, and although its raw materials are mainly assembled from points three hundred to seven hundred miles distant, the company has overcome all apparent disadvantages and has made its influence felt on both the western and eastern continents. In the remarkable reductions in the cost of

producing iron and steel in America, the Illinois Steel Company has taken an important part, its able technical staff having steadily made improvements in plants and methods."

As a coherent corporation the Illinois Steel Company represents the consolidation of the North Chicago Rolling Mill Company, the Joliet Steel Company, and the Union Steel Company. This amalgamation of important productive interests was effected May 1, 1889, and brought under one control and management five distinct producing plants, as here noted: North Chicago Works, established 1857; South Chicago Works, established 1880; Milwaukee works, established in 1868; Joliet works, established in 1870; and Union Works, Chicago, established in 1863. To the combination has since been added extensive works in the celebrated steel city of Gary, Indiana. These various plants occupy more than seven hundred acres of ground and all are thoroughly modern in equipment and facilities. Through ownership of stock in coke and coal companies the company has coal lands of many acres, in Western Pennsylvania and West Virginia, in connection with which are maintained large batteries of coke ovens. The company owns the Chicago, Lake Shore & Eastern Railway leased to the Elgin, Joliet & Eastern Railway Co., which operates the internal transportation of the different plants and connects in a direct way the South Chicago works, the Joliet works and the Gary works with the coal supply in Indiana and Illinois. This railway also affords connection with all railroad lines entering the city of Chicago, as well as with the extensive docks in the Calumet region, where great improvements have recently been instituted. It is needless to say that the company through its ownership of the Railroad owns a prodigious number of locomotives and railroad cars, used in the coke trade and internal transportation at the various plants.

The authorized capital stock of the Illinois Steel Company is fifty million dollars, and the stock issued up to the closing period of 1917 aggregates \$18,650,600,000. In connection with its various plants and correlated operations the company gives employment to fully 25,000 persons, and its annual pay roll represents \$33,000,000. It is needless to say that a most perfect and well ordered organization is that represented in the Illinois Steel Company, and in a purely material sense Chicago profits greatly through the enormous business produced and controlled by this corporation. The trade of the company has been extended by the shipping of its products into every state and territory of the United States and also into Canada, Mexico, South America, and all of the principal cities of Europe, as well as into Siberia, Corea, Japan, China, Australia and South American countries. The export phase of the business is one of vast importance and constantly expanding scope.

Until within more recent years in common with all other steel mills in America, the various plants of the Illinois Steel Company were utilized largely in the manufacturing of rails and fastenings for the same. The province of operation has now been greatly extended in consonance with demands, and the company now turns out the highest grade of architectural steel and a great variety of minor products, including bars and shapes, plates, and spikes, bolts, nuts, etc., for widely diversified uses. In September, 1898, the Illinois Steel Company became an integral part of the consolidation represented by the corporate title

of the Federal Steel Company and later merged into the United States Steel Corporation. The personnel of the official corps of the Illinois Steel Company is as here designated: Eugene J. Buffington, president; Theodore W. Robinson, vice-president; George G. Thorp, vice-president; Thomas J. Hyman, secretary and treasurer; and George Baker, general manager of sales.

Two of the plants of the Illinois Steel Company are situated within the corporate limits of Chicago,—The North works and the South works. In the Wisconsin metropolis the company's plan is known as the Milwaukee Works, and the Joliet and Gary works are established in the cities of these names. All of these plants are connected by special telegraph and telephone service with the general offices, in Chicago, and with each other. Of the various plants brief description is given in appending paragraphs: The North Works in Chicago, is the oldest of the company's plants having been established in 1857 for the rolling of iron rails. It has in the meantime undergone a complete transformation. Blast furnaces and rolling mills have been dismantled and moved to other plants and the "North Plant" remodeled into a fitting shop and warehouse for marketing steel. In the old rail mill that figured as the nucleus of the present North works were rolled the first steel rails produced in America, this historical achievement having occurred in May, 1865.

The South Works, the largest of the plants of the company, is situated on the shore of Lake Michigan, twelve miles south from the center of Chicago. Here the best of shipping facilities, both by water and rail, are provided, three railroad lines entering the yards and furnishing connection with all railways that have termini in Chicago. In 1880, on a sandy beach barely above the level of the lake, was initiated the erection on this site of four blast furnaces, and in the following year ground was broken for the Bessemer and rail mills. The plant now consists of eight blast furnaces four of which are twenty-one by eighty feet; and the other four being twenty by seventy-five feet; a Bessemer plant, with three ten-ton vessels, a forty-inch three high blooming mill, a twenty-seven-inch three high rail train and all facilities for the handling of a large output of rails. The institution includes also a recently installed open hearth steel plant and also a plate mill. An excellent harbor has been constructed for the accommodation of vessels transporting ore to the plant. The blast furnaces are unsurpassed in equipment as compared with all similar establishments in the world, and an enormous output is attained with remarkable low fuel consumption. The metal from these furnaces is conveyed in a direct way, up an inclined track, to the Bessemer Works. Ore is received almost entirely by water and vessels discharge their cargoes rapidly, the machinery provided making possible the unloading of vessels at an average rate of two hundred and fifty tons an hour. The Bessemer works of this plant initiated operations in June, 1882, and the three ten-ton vessels work to one casting pit. The Spiegel cupolas and iron cupolas for remelting pig-iron occupy separate buildings, on opposite sides of the converting building. A large building in the rear of the vessel is devoted to making bottoms, lining ladles, etc. The company has at this modern plant a fine office and a laboratory which has no superior in size and equipment. Nearly all of the ore for the supply of fifteen furnaces is unloaded at the docks of this plant, and a large part of this material is thence shipped by rail to Joliet, provisions

being made for the handling of five thousand tons of ore daily during the navigation season. The first open hearth steel ingot cast at the South works was turned out in February, 1895. The first steel plates rolled at the South works were turned out in February, 1895, and were made from open-hearth steel ingots. The Union works of the Illinois Steel Company have been dismantled and removed to other plants.

The Joliet works formerly operated by the Joliet Steel Company began operations in 1870, with an iron-rail mill. In 1873 Bessemer steel works and a steel rail mill were added, and the same year recorded also the erection and equipment of two blast furnaces. The Bessemer and rail mills were remodeled in 1885, three years later a rod mill was added to the equipment, and in 1890 was completed a third blast furnace. The output of this plant consists of rails, billets and rods. In the steel works are two ten-ton converters, and the blast furnaces each twenty by eight feet, produce Bessemer steel exclusively, the product being used in a direct way in the local Bessemer works, the conveying machinery and system being of the best type.

The Milwaukee works of the Illinois Steel Company constitutes an important department of the large industrial enterprise controlled by this corporation. This is situated on the shore of Lake Michigan at Bay View, a suburb of Milwaukee. This is the only plant of the company in which manufactured iron is produced, and the specially eligible site of the works is such that ample room is afforded for the expansion of the plant. The original mill was erected and equipped in 1868 for the manufacturing of iron rails. In 1874 the plant was enlarged and its equipment made adaptable to merchant iron work, further expansion of the plant having been made in 1884. The output of the Milwaukee works is now miscellaneous bar iron and steel, fish plates, light rails and nails. The two blast furnaces sixteen by sixty-six feet, were built in 1870 but having been extensively remodeled to meet modern demands, both being equipped with fire brick stoves and the principal products being forge and foundry iron, though each year records an appreciable production also of Bessemer iron. Ores for this plant are brought from the mines of the Lake Superior region and from an excellent red oolite deposit at Iron Ridge, Dodge County, Wisconsin, this deposit showing fifty per cent iron and a large per cent of phosphorous. The ore is cheaply mined and makes a pig specially suitable for the basic Bessemer process. The mills of the Milwaukee works are provided with eight trains of rolls, from eight to twenty-two inches in size; and the equipment includes also puddling and heating furnaces, both coal and gas fired, producers and all other accessories requisite in the production of the class of work to which the plant is devoted.

Even this brief review indicates sufficiently for the purposes of this publication and the broad scope of the industrial enterprise controlled by the Illinois Steel Company and its great importance in connection with Chicago. Operations are based on ample capital and all that vigor, technical skill and executive can offer. Progressive administrative policies have been adopted and rigidly adhered to since the consolidation of the various concerns to make up the present corporation, and this publication properly gives recognition to the Illinois Steel Company as one of the most important industrial concerns having headquarters in the western metropolis.

JOSEPH T. RYERSON & SON

In connection with the history of the iron and steel industry it has been significantly true of the Ryerson family that "one generation telleth unto another," for the family name has been identified with American civic and industrial affairs since 1647, and with the iron and steel business from its earliest inception.

From the beginning of productive activities in this industry in America, the name of Ryerson has held prominent place, and in Chicago's industrial history the firm enjoys distinction as the second, measured by the years of existence, of all merchandising houses now in the city.

As early as 1695 one Joris (George) Ryerson, together with two associates, purchased from the Crown six thousand acres in Northern New Jersey, which they began to develop both for its agricultural and mineral resources, and it is part of this same property which may be traced in present times as operating under the New Jersey Steel & Iron Company.

George Ryerson's son Martin was also interested in the development of portions of this tract about the middle of the eighteenth century,—smelting, forging and casting of iron beginning about this time.

Martin's son Thomas established himself in Philadelphia about 1790 as a wholesale dealer in foreign and domestic iron products, and Thomas Ryerson's son, Joseph Turner, came to Chicago in 1842 and established the present firm of Joseph T. Ryerson & Son.

His son, Edward L., the fifth generation, has continued the business, which was incorporated in 1888 under the original firm name and of which he continued president until 1911, when Mr. Clyde M. Carr was elected to the presidency and Mr. Ryerson took the position of Chairman of the Board of Directors.

During the period of 1884-1904 Mr. Herman M. Butler came into the organization and served as its vice president and treasurer from 1888 until his death in 1904. Mr. Butler was born in New York City in 1856, the son of Mr. Cyrus Butler, a merchant of New York. He graduated from Yale in 1876, and entered business in New York, coming to Chicago in 1884 to take the position in the firm of Joseph T. Ryerson & Son. In 1886 he married Miss Peabody, a daughter of Mr. Francis B. Peabody of Chicago. He was a man of notably high standards and successful achievements both in business and civic affairs, contributing very largely to the advancement of the firm's welfare, and enjoying the highest respect and popularity of a very wide circle of business and social friends.

The three sons of Mr. Ryerson, the sixth generation, became associated with the business in the period 1901-1909, and each holds the title of Vice President.

Joseph T. Ryerson arrived in Chicago November 1st, 1842, after an eight day journey from Philadelphia, by the following route: railway to Columbia, Pa., stagecoach over the mountains to Pittsburg, stage to Cleveland, boat from Cleveland to Detroit, rail from Detroit to Jackson, Michigan, stage to St. Joseph, Michigan, and boat from St. Joseph to Chicago. He came as the accredited agent of Wood, Edwards & McKnight, Ironmasters, and found Chicago a town of six thousand people, with half a dozen brick buildings and the balance

rather rude frame structures. He brought letters of introduction to William B. Ogden, John Kinzie and Walter Newberry.

Mr. Joseph T. Ryerson was a man of great executive ability and utmost thoroughness in detail and conservative care of his affairs. His business credit was of the highest character and always much beyond the rating of capital. Forty-one years of his life were spent in this community and with sincere devotion to all local affairs and the constantly increasing civic and social obligations. He was one of the incorporators of the Chicago Relief and Aid Society in 1857, and continued to be a director for most of his life, serving actively at the time of the Chicago fire. He was prominently associated with the management of the Women's Medical College, Illinois Charitable Eye and Ear Infirmary, and a supporter of a majority of public and charitable institutions. During ante-war times he was an ardent free-soiler, and with other prominent men of this city a supporter of James T. Lane when he lectured in Chicago in 1856. He was on a finance committee to raise funds for sending an Illinois colony to Kansas in support of the free-soil movement. He gave freely towards the support of the Union cause during the Civil war, and in both business and philanthropic activities his efforts contributed materially to the betterment of the country.

He rented a warehouse just west of the southwest corner of Clark and Water Streets, and started out with a stock of about twenty thousand dollars' worth of miscellaneous iron merchandise, received from his principals in Pittsburgh. The following spring the business was moved to Lake Street in a location just opposite the site of the Tremont House, and a few years later Mr. Ryerson bought a dock lot on South Water street, Nos. 218-224, because Lake street was becoming a popular retail shipping district and unfit for heavy merchandising. His last purchase proved to be excellent for his purpose, as he was receiving consignments of iron by lake, which were unloaded on his dock. This site continued to be the one occupied up to and after the great fire of October 9th, 1871, until the year 1883, when upon the death of Mr. Joseph Ryerson, his son and manager of the business, Edward L., gave up the South Water Street property and moved to warehouses especially built for the purpose situated on Milwaukee Avenue and running through to Clinton. Other adjoining property was subsequently secured and the plant extended so as to occupy about half a square and with frontage on Milwaukee Avenue, Clinton and Lake Streets.

About twenty years later still another move was made, to the property at present occupied by this firm and situated on West Sixteenth Street and covering about sixteen acres. Here very large warehouses have been erected, with all the facilities of railroad tracks and mechanical appliances for unloading and distributing merchandise, and a large equipment of tools and machinery for all the requirements of a widely extended business of this character. The mechanical facilities are those of a great plant of the very highest type, and the aim of the house has been to keep fully up to the wonderful advancement of Chicago and the expanding opportunities of the middle west and of the country contributory to Chicago as a distributing center. Further extensions have been made by the building of large warehouses in Jersey City, Detroit and St. Louis, all of which have been thoroughly equipped to perform all the necessary functions of the original plant in Chicago.

AMERICAN BRIDGE COMPANY

In the year 1869, Mr. L. B. Boomer built the first large shop in Chicago for the manufacture of wood and iron bridges, in the vicinity of what is now 40th Street and Stewart Avenue. The shops and yards were located on about thirty acres of land, and at that time probably less than 200 men were employed. About half of the output was wooden bridges and the other half was iron bridges, consisting of cast iron and wrought iron. In fact, wooden bridges of the Howe Truss type were manufactured in different lengths and carried in stock.

In 1870 the American Bridge Company was organized, with L. B. Boomer as President, H. A. Rust as Vice President, and a Mr. Boynton as Secretary and Treasurer, and with a capital of \$200,000. In 1878 the plant leased by Rust & Coolidge. One year later, in 1879, the first steel bridge in the world was manufactured at this shop and was erected over the Missouri River at Glasgow, Mo. The adaptability of steel for bridges soon became apparent to bridge builders, and in a few years the manufacture of wrought iron and wooden bridges began to decrease. In 1885 the plant was leased by the Chicago Forge & Bolt Company and soon afterwards was bought by them. A forge and bolt department was added, and the business was constantly increased.

Six years later, 1891, the American Bridge Works was organized, with Paul K. Richter as President, J. McGregor Adams as Vice President, Fred M. Steele as Treasurer, P. J. Cunneen as Secretary, and C. Weatherson as superintendent. The bridge department only, covering about 15 acres, was leased and operated by this new concern, and in 1895 was purchased from the Chicago Forge & Bolt Company. For five years longer the plant was operated under the new management, and in 1900 it was absorbed by the American Bridge Company, a subsidiary of the United States Steel Corporation.

Eight years after Mr. Boomer had built the first bridge shop of any importance in Chicago, Mr. M. Lassig, who had formerly been in the employ of the old American Bridge Company, together with Wm. G. Schnigla and Charles H. Hawkins, organized The Lassig Bridge & Iron Works with a capital of \$250,000. They bought 10 acres of land along the Chicago & Northwestern Railroad near what is now Deering Station, and on it built a bridge shop. This plant was operated under the initial officers until the year 1900 when it was also absorbed by the American Bridge Company.

The American Bridge Company was organized in 1900 with a capital of \$10,000,000, and with Percival Roberts, Jr., as President, Charles M. Jarvis as Vice President, H. Schoonmaker as Secretary, and Wm. H. Connell as Treasurer. About twenty small bridge plants, located in different parts of the United States, were absorbed by this Company. The output of these different shops was probably about 500,000 tons of structural material annually. In 1901 Alfred J. Major was elected president and J. A. Hatfield Vice President. This management continued until 1905 when August Ziesing was elected president, and he occupies the same position today.

The American Bridge Company employs on an average of 10,000 men today, and between 500,000 and 600,000 tons of structural steel is fabricated annually. This steel is used in the skeletons of large buildings, in steel railroad and highway bridges, in barges and car floats, in pipe lines, electric transmission line

towers, mines and head frames for mines, ore docks, tanks, and for a great many other purposes. Some foreign business is done, especially in the South American countries. Branch offices are maintained in all the principal cities in the United States, and the main office is located in Pittsburg, Pa.

The history of bridge building dates back for thousands of years and covers a good many different methods. Prior to 1869 when the first large bridge shop was established in Chicago, little iron had been used for bridge building and practically none, except a little cast iron, for buildings. In the United States the change from wooden bridges to iron bridges took place about this time, so we find in a great many cases a combination of the two materials was used in ordinary structures. An up-to-date bridge shop at that time was equipped to manufacture wooden bridges, iron bridges, and iron and wood bridges. With the advent of the steel bridge in 1879, and with the failure of certain cast iron and wrought iron bridges about this time, causing great loss of life, a sudden change took place in the whole methods of bridge design and manufacture. Steel was used more and more, although wrought iron was used for the smaller structures up to about 1890, or until the mills were in shape to furnish open hearth steel in sufficient quantities and at reasonable prices.

The process of manufacturing the wooden bridge was merely a matter of designing, framing, and erecting. The iron bridges that were built prior to the adoption of steel for bridges, consisted of cast iron compression members, held together with bolts and wrought iron rods and bars. Gradually the cast iron parts were eliminated and rolled iron beams, plates and channels were used in their place. Today the steel is rolled in the mills into long I-beams, plates, angles, channels, and other sections of different sizes. These are shipped to the bridge shop. Here they are cut to proper lengths, according to design and drawings. In many cases the rough edges are planed or milled smooth so as to make a proper fit. Holes for rivets to join the different pieces together are punched, reamed, and drilled, and then the smaller pieces are connected together with red hot rivets. Great care must be taken in the shop so as to connect the different pieces together in such a way as will be most convenient for shipment and erection at the site. With the present equipment, machinery, and erection outfits, members for bridges weighing as much as 185 tons have been built up in the shop, transported on two or three specially built cars to the building site, and then swung into place with large derricks. In all cases the different parts to a structure are manufactured strictly according to design and exact measure, so that when they are put together at the site, every piece will fit into its place without a hitch or turn. Bridges with as much as a thousand foot span are erected across a river from both sides at the same time, and the two arms will come together in the middle without being a fraction of an inch out of the way.

What is true of bridges is also true of the steel skeletons for large buildings. In many cases bridges and buildings are being manufactured in the same shop at the same time, and this is done to keep the different machines in operation as nearly the full time as possible.

August Ziesing was born February 19, 1858, in Peru, Illinois.

His early life was spent in Peru where he attended school and later graduated from the Peru High School. His father was a country physician and part of Mr. Ziesing's duties was to drive his father about the country to the homes of

his patients. In the summer time, when not attending school, he worked on his uncle's farm.

Wishing to obtain a thorough education in the profession which he chose as his life work, Mr. Ziesing entered the University of Illinois in the Civil Engineering course and graduated in 1878.

Immediately after graduation he started work as a draftsman with the Lassig Bridge & Iron Works. Two years later, 1880, he secured a position as Assistant Engineer with the Pennsylvania Railroad with headquarters at Pittsburgh, and continued in this capacity until 1883. From 1883 to 1897, he was Engineer and Manager for the Lassig Bridge & Iron Works. For the next three years, 1897 to 1900, he established an office in Chicago as a Consulting Engineer on railroad work.

In 1900 he was appointed western manager for the American Bridge Company, and in 1905 was elected to his present position, that of President.

The University of Illinois gave Mr. Ziesing the degree of Civil Engineer in 1905 and honored him still more by electing him an Honorary member of Tau Beta Pi, an honorary engineering society.

He is a member of the American Society of Civil Engineers, Western Society of Engineers, American Railway Engineering Association, Engineers Club of New York, Engineers Club of Chicago, Union League Club, University Club of Chicago, Duquesne Club of Pittsburgh, Pittsburgh Athletic Association, and Skokie Country Club.

August Ziesing was married to Alice A. Hanna, Wooster, Ohio, February 29, 1884. They have four children, Henry H., Margarete, Gertrude L., and Katherine M.

Mr. Ziesing delights in out-door exercises, among his favorite pastimes are those of driving, riding and golf, while for a diversion from his work he is fond of garden work and looking after his farm.

GOODMAN MANUFACTURING COMPANY

This vigorous and progressive corporation is one of six leading American concerns engaged in the manufacture of electric coal undercutting machines and mining locomotives.

The company was organized through the efforts of the late Herbert E. Goodman, who served as its Vice-President and General Manager from the time of its incorporation until his death—which occurred October 3, 1917.

Mr. Goodman was one of the pioneers in the development of the use of electricity in coal cutting and mine haulage from its experimental days. As early as 1887 Mr. Elmer A. Sperry, a young electrical engineer, now so well known as the inventor of the Gyroscopic Compass, and member of the Naval Consulting Board of the United States, interested Mr. A. L. Sweet, General Manager of the Chicago, Wilmington and Vermillion Coal Co., a leading coal mining corporation of Illinois, in the design of a coal mining machine of the pick pattern driven by an electric motor. Realizing the necessity of a more efficient method of dislodging coal from its ages-old beds than by the laborious

hand methods then employed Mr. Sweet agreed to finance Mr. Sperry. The Sperry Electric Mining Machine Company was organized with an authorized capital of \$100,000 and the first electrical coal cutting machine in America became a business proposition. At the organization of the company Mr. Sperry, a brother-in-law of Mr. Goodman, offered the latter the position of Secretary in the new company, and one share of stock, the balance of the stock being held by Mr. Sweet and Mr. Sperry.

The application of the "Sperry" Machine to the actual work of mining coal led to disappointments as to practical and successful operation and financial set backs occurred. Many experiments with the machines were made in different mines in Illinois and elsewhere, under the personal supervision of Mr. Goodman and Mr. Chas. E. Davis, a mechanical engineer whom Mr. Goodman had engaged to superintend the installations of the machines in the mines. These experiments although more or less failures promised possibilities for future developments and further financial support was furnished by Mr. W. D. Ewart and Mr. Arthur D. Dana, both of the Link Belt Company of Chicago, who took over the interests of Mr. Sweet and advanced further capital.

Improved machines of the pick type were built and sold. A Longwall Mining Machine was designed by Mr. Sperry, employing the chain principle, which is the standard to-day. This machine was quite successful in the limited field of operations using the longwall method of mining. An electric locomotive was also built and installed in a mine at Streator, Illinois. This locomotive embodied fundamental features worked out by Mr. Sperry, which are still widely used in the latest types of mine haulage equipment manufactured at the present time.

It became clear that the applications of electric power for undercutting and hauling coal in the mines as the result of the inventive genius of Mr. Sperry were not only practical but destined for a wonderful development.

Early in the '90's Mr. Sperry developed some street car equipments and interested in this line of commercial endeavor some Cleveland capitalists who were anxious to have Mr. Sperry devote all of his time to their enterprise. Through the efforts of these men the Thompson-Houston Electric Company, one of the largest electrical manufacturing corporations in the United States, purchased the patents of the Sperry Electric Mining Machine Company at a price that reimbursed the original incorporators of that company for the money they had invested and left a small surplus. A new corporation was then formed known as the Independent Electric Company, composed of Mr. Goodman, Mr. Arthur D. Dana, Treasurer; Mr. Charles A. Pratt, Electrical Engineer, and Mr. Charles E. Davis, Superintendent.

About this time patents had been secured by Francis Lechner of Columbus, Ohio, for a chain type of coal cutting machine in contrast to the pick type. These patents gave evidence of a superior and more efficient machine and as Lechner and his associates were experiencing the usual struggle for financial support, so common with new inventions, Mr. Goodman and his associates quickly recognizing the greater possibilities of this new principle as applied to the coal mining machine purchased the Lechner patents in 1893 and immediately began the design and construction of the Chain Breast Coal Cutting Machine under these patents with important improvements suggested by Mr. Davis whose past ex-

perience installing the pick machines had shown him more clearly the requirements for the machine to successfully meet the severe conditions of mining coal.

Successful undercutting of coal with electric driven machines can be said to date from this period, although like all new methods the development and sale of the machines progressed slowly. The "Independent" machines were manufactured in the Link Belt factory, Thirty-ninth street and Stewart avenue, where space was rented. In addition electric mining locomotives were also made as well as dynamos and switch boards, as it was found desirable and more profitable to install as far as possible not only the machines and locomotives but the equipment as well to furnish the necessary electric power.

By the Fall of 1894 the company had been able to place in operation in mines a dozen machines which were attracting wide attention, and before the end of the year Pickands, Mather & Company, extensive operators of both coal and iron mines, came into the market for a complete plant of mining machinery to develop their "Essen" mine in the Pittsburgh district. After an exhaustive investigation of the "Independent" machines and locomotives, as well as those of other makes, as competition had arisen as was natural with a successful new enterprise, they placed with the Independent Electric Company the contract for their entire plant, amounting to \$54,000. This was the largest order placed up to that time for electric coal mining equipment—substantiating the untiring faith of Mr. Goodman and his associates in the ultimate success of the application of electricity for the mining of coal.

The ability to finance so large an order presented a serious difficulty to the Independent Company—but with his customary resourcefulness and determination to succeed, Mr. Goodman was able to arrange for the necessary funds by transferring the mining machinery business of the Independent Electric Company to the Link Belt Company on the basis of equal division of the profits. Mr. Goodman with Mr. Pratt and Mr. Davis then became the active officials of this department of the Link Belt Company. Other contractors were secured but the general management of the Link Belt Company was inclined to be conservative, whereas Mr. Goodman desired an aggressive policy, characteristic of his unbounded faith that the future meant big business. He saw the vision of the Goodman Manufacturing Company—a child of his own creation—that would grow to efficient manhood and become a worthy associate of the prominent manufacturers of Chicago. Obtaining an option from the Link Belt Company, with the tenacity of purpose which was one of his prominent assets, Mr. Goodman set about the organization of the new company. About this time Mr. Frank S. Washburn, formerly of Chicago, a graduate of Cornell University and a prominent engineer came to Chicago from his home in Nashville, Tenn., to purchase mining machinery for a mine in Kentucky in which he was interested. Mr. Goodman was attracted by the thoroughness and ability of Mr. Washburn, told him of his plans to organize the Goodman Manufacturing Company and obtained his consent to become its President, and on April 23, 1900, the company took over the business with Mr. Goodman as Vice-President and General Manager, and Mr. Charles H. Strawbridge as Secretary. The company was incorporated under the laws of Illinois with a capital stock of \$150,000 and a new factory was built at the corner of South Halsted street and Forty-eighth Place.

The enormous increase in the production of coal both anthracite and bitu-

minous from approximately 130,000,000 tons in 1887, when Mr. Sperry was designing the first electric coal cutting machine to 475,000,000 tons in 1913—and still greater since, has brought remarkable success to the company, whose mining machines and locomotives have been potent factors in the development of this most important resource of our national life.

To keep pace with the production requirements the capital stock has been increased, in 1902 to \$250,000, again in 1903 to \$500,000, in 1910 to \$1,000,000 and in 1912 to \$1,500,000, and additions made to the plant until to-day strictly modern factory buildings cover several acres. All mining districts of the United States are benefited by its product, which is also finding its way into the mining fields of Europe and the **Orient**.

THE A. PLAMONDON MANUFACTURING COMPANY

Continued success is the ultimate criterion of the merit and reliability in the industrial and commercial world, and measured by the standard the A. Plamondon Manufacturing Company is to be considered not only as one of the pioneer industrial institutions of Chicago but also one whose successful operations mark it as one of the most important concerns of the kind in the Union. Its consecutive history covers a period of nearly sixty years and the name of Plamondon has during all these years represented a staunch and benignant power not only in furthering the prestige of Chicago as one of the world's greatest manufacturing and commercial centers but also in the promotion and upholding of all things making for civic prosperity and advancement. The company whose title initiates this paragraph bears the name of its honored founder, the late Ambrose Plamondon, who was one of the pioneer manufacturers of Chicago and who remained until his death an honored and influential citizen of the western metropolis, to whose development and upbuilding he contributed in liberal measure as have also his sons, in whose keeping the prestige of the family name has well reposed.

In the year of 1859 Ambrose Plamondon laid in a modest way the foundation of the large important industrial enterprise now controlled by the A. Plamondon Manufacturing Company, which was formed by him and which was incorporated in 1877. On a modest scale Mr. Plamondon began the manufacturing of a general line of machinery, with headquarters at which was then 57 South Clinton street, and is now 12 to 24 North Clinton street. Early in history of his activities along this important line he gained as a valued coadjutor and partner Moses Perkins, and they soon began to give primary attention to the manufacturing of power-transmitting machinery, including shafting, pulleys, hangers, etc., and a specialty being made of molded machine gearing and friction pulleys of superior design and construction. In 1877 as a matter of commercial expediency in providing for the constantly increasing demands placed upon his establishment, Mr. Plamondon incorporated the business, with a capital stock of seventy-five thousand dollars, the while additions were made to the original plant and the force of employes doubled, bringing the number up to thirty. Ambrose Plamondon, a man of fine character, mature judgment and inviolable poise,

proved one of the strongest and best of the early captains of industry in Chicago, and he continued as president of the A. Plamondon Manufacturing Company until his death, in 1896. He was succeeded in the presidency by his son Charles A., his son George became vice-president, and another son Alfred D. assumed the office of secretary and treasurer, all of the sons having previously gained thorough experience in connection with the business. Charles A. Plamondon continued president of the company until his tragic death. He was one of the victims drowned in the sinking of the great Atlantic steamship "Lusitania" when the same was attacked by a German submarine and sent to oceans depths in 1915, incidental to the great European war and Chicago was called upon to mourn the loss of one of her best and most public-spirited citizens. Shortly after the death of Mr. Plamondon his interest in the A. Plamondon Manufacturing Company, as well as those of his surviving brothers George and Alfred D., were purchased by the remaining stockholders and J. T. Benedict, and on the first of January, 1916, a reorganization of the company was effected, Mr. Benedict at this time becoming the active head of the business. Since that time the remaining Plamondon interests in the corporation are those held by Mrs. Jeanette (Plamondon) Murphy, widow of the late Dr. John B. Murphy, of Chicago, who was one of the world's greatest surgeons, and by Mrs. John (Plamondon) Amber of Chicago, both of these stockholders being daughters of the late Ambrose Plamondon.

The A. Plamondon Manufacturing Company is known as one of the largest and most important concerns of its kind in the country and it has gained international reputation in the manufacturing of power-transmitting machinery, a specialty being still made of shafting, pulleys, hangers, machine molded gearing and frictional clutches. The products of the extensive plant are standards of perfection in every detail and in efficiency of service given. In this article it is impossible to enter into manifold details concerning the variety and comprehensiveness of the output of this representative Chicago manufactory, but the following statements from a recent catalogue of the company are worthy of reproduction as indicating the general superiority of productions: "The economical transmission and distribution of power requires control and flexibility. This can be obtained by the judicious installation of Plamondon friction clutches. By means of these clutches any line shaft or machine may be disconnected or put in service without interfering with other parts of the power system." For the Plamondon disc type of friction clutch are justly claimed many points of indubitable superiority, and this and other products are adequately described in catalogues issued by the company. The company's plant is equipped with special machinery for making on short notice and at reasonable cost any gears not listed in its catalogues, and also has other special machinery for the filling of orders aside from regular lines.

The A. Plamondon Manufacturing Company's plant is eligibly situated at 12 to 24 North Clinton street, where is utilized an aggregate floor space of fully sixty thousand square feet and where continuous employment is given to a force of more than one hundred and fifty persons, with a large contingent of skilled artisans. The enterprise has ever rested on the most substantial of foundations and the annual business in 1916 was brought up to the noteworthy aggregate of half a million dollars.



A. Hammond

J. T. BENEDICT

The President of the A. Plamondon Manufacturing Company is a typical representative of the alert and progressive element of young business men in whom is safely reposed the direction of large and important industrial interests in Chicago, and his loyalty to the city is the greater by reason of the fact that he can claim it as the place of his nativity, his birth having here occurred on the 21st of September, 1885. He is a son of Harry Benedict, who was long a prominent and influential figure in the live-stock commission business in Chicago, where he still maintains his home.

J. T. Benedict acquired his early education in the Chicago public schools and after his graduation in the Chicago Manual Training School he entered Cornell University at Itacha, New York, in which he was graduated as a member in the class of 1907. Mr. Benedict virtually initiated his independent business career when he effected the organization of the Hills-Benedict Linseed Oil Company, which established its plant on South Loomis street. Later he became one of the founders and directors, a director and president of the Boss Nut Company, with which he is still identified, being likewise a director of the company previously mentioned. The Boss Nut Company's offices are in the Railway Exchange building and its factory at 1744 North Coleman street, this concern being engaged in the manufacturing of railway supplies. He represents this company as a member of the Illinois Manufacturers' Association, The National Metal Trades Association, and the Chicago Association of Commerce. In politics he is aligned in the rank of the Republican party and in a social way he holds membership in the University Club and the South Shore Club.

In 1912 was solemnized the marriage of Mr. Benedict to Miss Cecille Murphy, daughter of the late and revered Dr. John B. Murphy and, on the distaff side, a granddaughter of the late Ambrose Plamondon.

THE PLAMONDON & TETZE COMPANY

In contracting for interior decorating of the most approved modern order this company has attained to distinctive precedence and controls a large and representative business, the same being not confined to Chicago but extending into other cities of the middle west. Though the original corporate title is retained since the death of Alexander Tetze, one of the two principals who founded the business, the surviving partner, Alfred D. Plamondon, is now virtually the sole owner of the business, with all executive responsibilities involved in his incumbency of the offices of president, secretary and treasurer of the corporation.

In the year 1903 Messrs. Plamondon and Tetze became associated in the organization and incorporation of the company whose title initiates this review, the former assuming the office of president and the latter that of vice-president of the new company, which was incorporated with a capital stock of five thousand dollars. The original operations were along the lines of contracting for interior woodwork finishing, and headquarters were established in a building

at the corner of Clinton and Monroe streets. In the initial period operations were exclusively in Chicago, and for the first decade an average of fifty skilled and high-salaried employes were retained in the service of the company. Many large and important contracts have been executed by the company and the splendid efficiency of the service has given the concern a reputation that is a distinct commercial asset. From local limitations the province of the business has been permanently extended throughout the entire Mississippi valley, especially in the states of Illinois, Ohio and Michigan. Among the large contracts handled by the company in Chicago was that of completing the interior wood-work of the celebrated Blackstone hotel, and others of equal relative importance have been handled with equal success. The company outfitted in its line the public library in the city of Detroit, Michigan, and many other public institutions and other fine buildings in the middle west give evidence of the high character of the work done by this representative Chicago concern, which, under normal business conditions, gives employment to a force of two hundred persons. The death of Mr. Tetze, one of the two founders of the business, occurred on the 1st of October, 1915, and his interests in the business were then purchased by Mr. Plamondon, who has since continued the enterprise in practically an individual way.

Alfred D. Plamondon is a native son of Chicago and a scion of a family whose name has been one of much prominence in connection with the industrial and civic history of the city during the course of many years,—a name significant of large and worthy influence in connection with those agencies that have furthered the development and progress of the great metropolis of the west. Specific evidence of the consistency of the above statements may be found on other pages of this volume, incidental to the review of the A. Plamondon Manufacturing Company, one of the important industrial concerns of the city.

Alfred Daniel Plamondon was born in Chicago on the 10th of March, 1869, and is a son of the late Ambrose and Cecilia (Higgins) Plamondon, his father having been for many years one of the most honored and influential citizens of Chicago. Mr. Plamondon acquired his preliminary education in the public schools and supplemented this by the completion of a course in the Pennsylvania Military Academy, at Chester, Pennsylvania, in which he was graduated as a member of the class of 1891 and from which he received the degree of Civil Engineer. He forthwith became connected with the A. Plamondon Manufacturing Company, which was founded by his father, and after the death of the latter, in 1896, he assumed the offices of secretary and treasurer of the company. In 1893 Mr. Plamondon organized the Chicago Pneumatic Malting Company, and he gave his personal supervision to the erection of its extensive plant, at the corner of Rockwell and Polk streets. He continued the executive head of this corporation until 1897, when he sold the plant and business to the American Malting Company. Thereafter he continued to give his close attention to his administrative duties as secretary and treasurer of the A. Plamondon Company until after the death of his brother, Charles A. Plamondon, who had succeeded their honored father as president of the company and who continued in tenure of this position until his tragic death, as one of the victims on the ill-fated Atlantic liner, the "Lusitania," which was the first important vessel to be attacked and sunk by the Germans in connection with the great European war. After the

death of his brother Alfred D. Plamondon sold his interest in the business of the A. Plamondon Manufacturing Company and organized the Plamondon & Tetz Company, of which he has since continued the active and progressive head, as noted in the foregoing article. He is a member of the Chicago Association of Commerce and the Illinois Manufacturers' Association. A Republican in politics, Mr. Plamondon has well upheld the high prestige of the family name in his attitude as a liberal and public-spirited citizen and is known and valued as one of the representative men of affairs in his native city. He holds membership in the Chicago Athletic Club, the Exmoor Country Club, the South Shore Country Club and is affiliated with the Royal League. The offices of the Plamondon & Tetz Company are maintained at 110 South Dearborn street, in the Westminster building.

On the 7th of October, 1892, was solemnized the marriage of Mr. Plamondon to Miss Lillian Nelson, daughter of Thomas and Catherine (Lamb) Nelson, likewise members of old and honored Chicago families, the father of Mrs. Plamondon having been the founder of the business now conducted under the title of the W. P. Nelson Company: the president of this company, William P. Nelson, a brother of Mrs. Plamondon, is likewise president of the American Wall Paper Company. Mr. and Mrs. Plamondon have four children,—Elizabeth, William, Nelson, Alfred D., Jr., and George L.

LINK-BELT COMPANY

Forty-five years ago, a young man named William D. Ewart was a partner in a small country supply store, in Belle Plaine, Iowa. A large part of the business of his firm was supplying the farmers with seeders, mowers and other farm implements.

The self-binder attachment to the harvesting machine of that day was as yet in the infancy of its development, and the firm of Ewart and Gore had sold a few of these to their customers. It soon became evident that the machines were not capable of performing reliably the various motions necessary to bunch and bind a bundle of grain in regular order and in accurate time. The transmission of power to the different parts was largely done by the use of leather belting. In the early morning the dew and dampness of the harvest field would make the leather belts slip more or less, changing the speeds of the parts of the mechanism, and rendering it impossible for the binder to work efficiently. Again in the heat of the day they were inclined to stretch, and in order to get good work out of the binders it was essential to alter the lengths of the belts frequently.

To overcome this difficulty some of the makers introduced a chain, using a strap link construction, consisting of rectangular links of malleable iron joined together with pieces of hoop iron. These were folded and riveted, and non-detachable, the hoop iron links alternating with the malleable ones, all crudely made, and inaccurate in pitch. Though such a chain worked better than the leather belting, the chain was a constant source of trouble to the farmer, for

in the event of its breaking, which occurred frequently, it was a considerable task to put in a new link and rivet it up, especially out in the field.

The loss of time thus occasioned in the hurry and bustle of the harvesting season, pointed clearly to the need of some form of chain which would work better than the strap link type. The knowledge of this and other difficulties that were encountered with self-binders, induced Mr. Ewart to undertake the construction of a binder of his own design. He was working, however, at a great disadvantage, having no shop facilities, and possessed of limited capital, though endowed with mechanical ingenuity to a very marked degree. Before he could complete his experiments and carry out his plans for constructing and marketing binders which would embody all the improvements he contemplated, his failing health and limited capital led to the dissolution of the partnership, and Mr. Ewart went to Chicago in the hope of obtaining employment, applying to Mr. J. C. Coonley, the President of the Chicago Malleable Iron Company, which had made link castings from patterns made by Mr. Ewart, for his experiments.

Incidentally, in the development of the details of the binder, Mr. Ewart had invented what has since been known all over the world as the Ewart Detachable Link-Belt. It is interesting to note, as an illustration of Mr. Ewart's remarkable prophetic insight into the future requirements of the mechanical world, that the original chain he made is practically the standard from which all other sizes have grown, known as No. 45, and that this size constituted for many years fully three fourths of the amount of Link-Belt in use.

Mr. Ewart did not succeed in securing a position with the Chicago Malleable Iron Company, which would be suitable for his condition of health, but his interest in agricultural implements led him to visit the Chicago Exposition, held in a building on the lake front, where several manufacturers were exhibiting their self-binders. His large experience with such machines led him to urge the representative of one of the manufacturers to permit him to replace the pulleys and belts, and strap chains and sprockets of the machine on exhibition, with the Link-Belt of his own invention, and wheels to match.

He found that the Chicago Malleable Iron Company fortunately had a few lengths of Link-Belt still on hand, and he secured wheels immediately from Belle Plaine, and in a few days had the binder operating so satisfactorily that he secured orders from other manufacturers at the Exposition for a few sets of the Link-Belt, as well as in the sprocket that his links were detachable made in rapidly increasing orders. By the end of the second year, the Ewart Manufacturing Company, which was organized in 1875 to handle this trade, had an established and profitable business.

Mr. Ewart was the first man to realize the importance of accuracy of pitch of the Link-Belt, as well as in the sprocket wheels, and he devised numerous ingenious methods of securing it. The fact that his links were detachable made them infinitely more desirable than the old strap links. With a few spare links of the new design in his tool box, the farmer could start out with his machine in the morning, and in the event of a link's breaking, could quickly make repairs and proceed without loss of time. The accuracy of pitch made the links and wheels work smoothly, and minimized the danger of breaking.

From this small beginning has grown the entire Link-Belt industry of the

world, for while the agricultural implement maker at first was looked upon as the only purchaser of Link-Belt in large quantities, its use has been extended to a great variety of other apparatus. Mr. Ewart realized that the use of larger sizes would be desirable for the elevating and conveying of grain, coal and other material, and so began devising additional sizes and various forms of "attachment" links, to which elevator buckets or conveyor slats and flights could be attached.

When the first Link-Belt elevator was put up in one of the grain warehouses in Chicago, the entire expense had to be borne by the Ewart Mfg. Co., owing to a doubt as to its feasibility. The running of the apparatus excited the curiosity of the millwrights who saw it, and all kinds of dire prophecies were made regarding it. "It would wear out quickly," said one; "It will stretch and jump off the wheels," said another; "the rust will get in the grain and ruin it," said still another; until every feature of the Link-Belt was condemned. In spite of the fact that it worked perfectly, the elevator was not used, and a year or more afterwards it was found covered with rust, and looked upon as fit only for the scrap heap. But elsewhere it worked to the satisfaction of the elevator men, and its use began to be adopted quite generally.

The next year over thirty elevators and as many conveyors were successfully installed, not, however, without many financial and mechanical difficulties, which were gradually overcome. Enough had been done by this time to place the industry of the "transient uses" of Link-Belt (as compared with the agricultural) on a firm basis. The Ewart Mfg. Co. pursued the policy of selling only the component parts of any given form of apparatus, leaving the work of erection to the customer, only guaranteeing the working strength of the Link-Belt, and its accuracy.

Gradually the number of sprocket wheel patterns increased, and as the business developed, it became more and more apparent that it would be necessary for some organization to have the development of the Link-Belt business in general manufacturing plants solely under its care. Mr. Ewart, with Frank I. Pearce and Edward A. Turner, organized for this purpose the Link-Belt Machinery Co., at Chicago in 1880. Later, they established a branch in New York City.

Burr & Dodge of Philadelphia were handling in a similar manner certain territory in their vicinity, and in 1888, Burr & Dodge and the New York branch of the Link-Belt Machinery Company combined as the Link-Belt Engineering Co., with main office and manufacturing plant at Philadelphia, to handle the trade in the Eastern portion of the United States, while the Link-Belt Machinery Company handled the Western portion. Meanwhile, the Ewart Manufacturing Co. had established a large chain manufacturing plant at Indianapolis.

In 1906 these three related interests were merged under one management and into one company, as the Link-Belt Company, with general offices at Chicago, large manufacturing plants and Sales and Engineering offices at Chicago and Philadelphia, and large chain manufacturing plant (the Ewart Works) at Indianapolis. Later, the Belmont plant at Indianapolis was established for furnishing the necessary malleable iron supplies. The four plants now employ about 3,000 people, and the product is marketed all over the world, with branches

in leading cities in the United States, and foreign representatives at various points.

Starting with the original Ewart Link-Belt as the foundation of the business, the developments have included a large number and variety of types and sizes of malleable iron and steel link-belt, and attachment links, with corresponding sprocket wheels, for elevators and conveyors to handle all kinds of material in bulk or package, and for transmitting power under a large variety of conditions. Related lines of machinery and departments of engineering work have been broadened from time to time to include coal storage systems, tipple equipment, washeries, locomotive coaling stations, pivoted bucket carriers, traveling water-intake screens, wagon and truck loaders, locomotive cranes, electric hoists, car hauls, car dumpers, bridge tramways, etc., etc.

WILLIAM DANA EWART

It has often been stated that the inventions which, in general, have been most successful, are those relating to comparatively simple matters—things so simple, in fact, that they have been overlooked by those who might have been expected to be the first to appreciate their importance. Thus, the use of chains for the purpose of transmitting motion is a method long known and applied, and shown, in various crude forms, in many of the early treatises on mechanism. In most instances, however, the chain, as applied for the transmission of power, did not differ materially from the form originally designed for sustaining weight, and it is only within recent times that, by a simple and ingenious invention, a chain, which was at the same time a belt, was produced. How recent this invention actually is, will be realized when we learn that the man to whom it is due passed away in early middle life.

William Dana Ewart was born in Marietta, Ohio, in 1852, the son of Thomas and Grace (Dana) Ewart. He received his education in the public schools and college at Marietta. As a young man he began his business career at Belle Plaine, Iowa, as a dealer in agricultural implements. It was here that he invented the Ewart Detachable Link-Belt with which his subsequent career was identified.

His rise to the position of a man of wealth is a remarkable instance of what may be accomplished in one short life time, and is a fine example of perseverance and application devoted to a steady purpose to succeed in the work he had set himself to perform. Mr. Ewart died at Rome, Italy, May 3, 1908. He had withdrawn from active business for some years previous to his sojourn in Europe, where he had gone in an endeavor to win back his shattered health. He retained, however, his financial and personal interest in the corporation in whose upbuilding he was the leader.

Prior to the work of Mr. Ewart, a transmission chain consisted either of the ordinary forged-link cable chain, such as used for hoisting appliances, but running over pocketed sheaves, or the flat-link chain, made up of pairs of flat wrought metal links riveted together, and running over sprocket wheels. An excellent example of the power type is seen in the chain and pocketed sheaves used in the Weston chain block, while the latter type is familiar to every one as used all over

the world in the driving gear of the bicycle. Such chains have done good work, but their defects have limited their use to transmissions for which the ordinary belt was unsuited, as for instance when a positive relation of the sprockets is essential (as in textile machinery and similar work), or in places where the limitations in size of wheels and of distances between centers renders a belt ineffective, as we find in the case of the bicycle, already cited.

The great defect of such chains, apart from their cost, lies in the difficulty in making changes in length, in taking up slack, and in general, in immediate and general application. The forged chain involves the work of the smith to close the last link, and if the length of the endless chain thus expensively made be incorrect, a link must be opened and rewelded to enable any change to be made. The flat-link chain requires the cutting of a rivet and the insertion of a new one, unless the expedient of a removable pin, with screw and nut, is used, this latter being the well-known arrangement in the bicycle chain.

In 1874 Mr. Ewart devised the form of transmission chain since known as the detachable-link type, and now used throughout the mechanical world under the name of "Link-Belt." The vital feature of this invention lies in the design of a form of link which is readily detachable from adjacent links at will, but which cannot become detachable by itself when in service.

Further, the link was so designed as to consist of a single piece, of a form enabling it to be readily made as a malleable casting. Thus at one time the two great defects in chain transmission mechanism were eliminated: the defect of non-adjustability and the defect of cost, and this by an actual simplification in construction.

The result of this invention is seen in the widespread adoption of the Link-Belt for innumerable varieties of service for which a chain was previously considered inapplicable. It was quickly adopted by the manufacturers of harvesting and other agricultural machinery, and its advantages and value as a substitute for leather and other forms of flat belt, in power transmissions and in machinery for elevating and conveying materials, soon became evident. Mr. Ewart organized, in 1880, the Link-Belt Machinery Company, at Chicago, for the exploitation of the chain, and the manufacture of machinery employing it, in other than agricultural lines. The actual manufacture of the chain was conducted by the Ewart Manufacturing Company, a corporation organized for that purpose in 1875. The success of the Chicago company led to the organization, in 1888, of the Link-Belt Engineering Company, of Philadelphia, Mr. Ewart being largely interested in, and serving as president of both companies. In 1906 both of these corporations, together with the original Ewart Mfg. Company, were consolidated to form the Link-Belt Company, by which corporation the business is now conducted. The whole history of these companies bears the impress of Mr. Ewart's genius for organization, and ability to secure the co-operation of his associates.

THE CHICAGO RAILWAY EQUIPMENT COMPANY

At this juncture it is permitted to take briefly under review one of the really great industries that has felt the fostering influences of Chicago and that has

been great not only in the matter of productive achievement but also in the honorable policies and high business ideals that have been brought to bear in its development and upbuilding. To enter into manifold details is impossible within the compass of a work of this province, but in offering consistent record concerning the company and its achievement it is specially gratifying to be able to make certain quotations from an address delivered by the company's president, Edward B. Leigh, on the occasion of its twentieth anniversary, though such paraphrase and elimination must needs be indulged that formal marks of quotation will not be required.

The Chicago Railway Equipment Company was launched January 1, 1893, and succeeded to the business of the National Hollow Brake Beam Company. It was organized with an authorized capital of \$1,500,000, afterward increased to \$2,500,000; it assumed an obligation of \$1,187,091.90, calling for a yearly guaranty of \$69,000, has just \$30,000 in cash paid into its treasury by its shareholders, and no more has ever been paid into its treasury by them. In twenty years the company earned upward of \$7,000,000; absolved all of its obligations and paid nearly a million dollars for the purchase of the plants and business of other companies. With its sixty-fifth consecutive dividend the company returned to its shareholders a total of \$2,485,487.90 in cash, or one hundred per cent. on its outstanding capital, with tangible assets on an absolute parity with its outstanding stock. Within this period of twenty years the company sold more than 6,000,000 brake beams, the principal product of the concern. In the production of brake beams the company ranks as one of the exceptional successes in the railway-supply field,—a rank with the air brake and the automatic coupler. In the course of its operations this corporation has acquired the business of fourteen different companies, has owned nearly four hundred patents and has gained facilities of manufacturing in its own plants, from the raw material, nearly all of the finished products used in the manufacturing of its notably superior brake beams. In speaking of the advancement of the company and likening the progress to the voyage of a sturdy ship, the president of the company made a splendid estimate in the following words:

"In her launching, your 'Creco' Ship had fastened to her masthead the name 'National Hollow Brake Beam Company,' and it was riveted by the most stringent requirements, covering a period of fifteen years. Everywhere she went, at all times and in all places, she had to carry this conspicuous badge. Under the conduct of your company the National Hollow Brake Beam attained a worldwide reputation. It was a synonym of merit and represented the then highest achievement in its particular field. With the approaching expiration of the foundation patents, when others would be free to manufacture the National Hollow Brake Beam, it was manifest that something should be done to forestall this condition,—hence the birth of the 'Creco' brake beam. Again did your company undertake to establish another and higher standard of excellence. So effectually has this been accomplished that National Hollow Brake Beam is now only a memory and to-day 'Chicago Railway Equipment Company' and 'Creco' are synonyms of even higher achievement, merit and commercial conscience. So complete is it that when brake beams are spoken of it naturally suggests 'Creco.' * * *

The Chicago Railway Equipment Company without high ideals would never have attained the supremacy in the field of brake-beam building which it now

enjoys, and had not its officers and employes held constantly before them ideals that are high, that are right, that are honest. Looking backward over the twenty years, looking forward to the years that are to come, may our ideals in business be as high as our ideals in national life, and as we are proud of our country's flag, so may we also be proud of 'Creco.' "

The National Hollow Brake Beam Company was incorporated April 26, 1887, and in the following year it was reorganized under the direction of Edward B. Leigh, who purchased the controlling interest. The original Chicago plant was on the second floor of the Barnum & Richardson building, on Clinton street, and Hon. William H. Barnum continued as president of the company until May, 1889. November 1, 1889, removal was made to the new plant, which had been erected on Princeton avenue, between Fortieth and Root streets. On the 1st of January, 1908, removal was made to the present fine plant, the substantial building having been erected by the Chicago Railway Equipment Company on a twenty-acre tract of land at 1928 West Forty-sixth street. Here the company owns the entire block between Forty-fourth and Forty-sixth streets and between Lincoln and Robey streets, except for a small portion that is the property of the Central Manufacturing District. The company now owns and operates five distinct plants. At Franklin, Pennsylvania, is the rolling mill; malleable-iron plants are established at Grand Rapids, Michigan and Marion, Indiana; in Detroit, Michigan, is the forging plant; and in the Chicago plant, in which are manufactured the brake beams and side bearings, employment is given to a force of one hundred and fifty persons. The products of this great Chicago concern are well known and in constant demand throughout the United States and a substantial export trade likewise has been developed. In the plant at Franklin, Pennsylvania, are manufactured metal poles and towers for telegraphic, telephonic and other forms of electrical transmission service, and the annual average business of the company, in connection with its several plants, now aggregates about four million dollars. The company has prestige for pioneer honors and leadership in the manufacturing of the most improved type of brake beams, and the well equipped Chicago plant is the only one of its kind in the city. As a whole the Chicago Railway Equipment Company stands forth as one of the great and important industrial concerns that conserve the commercial supremacy of the great metropolis on the shores of Lake Michigan. Edward B. Leigh, of whom more specific mention will be made in following paragraphs, has been president of the company from the time of its organization under the present title, and he is also general manager of the business: Edward T. Walker being secretary and treasurer.

EDWARD B. LEIGH

With all of honor and distinction has Edward Baker Leigh, president of the Chicago Railway Equipment Company, won his vantage-place as one of America's veritable captains of industry. He was born at Townsend, Massachusetts, April 13, 1853, and is a son of Dr. Edwin Leigh and Susan (Seollay) Leigh. Dr. Leigh was born at South Berwick, Maine, and was a grandson of

Captain Thomas Leigh, who came from England to America in 1770. Dr. Leigh was graduated in Bowdoin College and Boston Medical College, and gained prominence as a physician, literateur and educator. His wife was of Scotch descent and was a great-granddaughter of John Scollay, who settled in Stoneham, Massachusetts, about 1720.

Edward B. Leigh was about two years of age at the time of his parents' removal to St. Louis, Missouri, in 1855, and there he was reared to adult age, his educational advantages having included those of both the City University and Washington University, in St. Louis. His first business experience was gained through his services as a clerk in the St. Louis office of the Pennsylvania Railroad,—1869-74. From 1875 to 1882 he was assistant secretary of the St. Louis Grain Elevator Company and secretary of the East St. Louis Grain Elevator Company. From 1882 to 1887 he was manager of the American Brake Company, and in 1888 he organized the National Hollow Brake Beam Company, of which he was vice-president and general manager until 1893 and with which he initiated his business career in Chicago. In 1893, as noted in preceding paragraphs, he became the dominating figure in effecting the organization of the Chicago Railway Equipment Company, and of the same he was vice-president and general manager until 1906, when he was made president of the company. As the executive head and general manager he has brought to bear admirable initiative and administrative powers and the highest of commercial ideals, so that he has high standing in the industrial world and in the esteem of all who know him in connection with business or social affairs.

Mr. Leigh is a vice-president of the Railway Business Association and a director of the National Association of Manufacturers. In his home city he holds membership in such representative civic organizations as the Chicago Athletic Association, the Union League, the Hamilton, the Press Club, and the Illinois Athletic Club. He is a member also of the St. Louis Club and the Detroit Club, and is affiliated with the Benevolent & Protective Order of Elks. He is a liberal and loyal citizen but has had no ambition for public office, though he accords staunch allegiance to the republican party.

On the 15th of November, 1876, was solemnized the marriage of Mr. Leigh to Miss Clara Furness, of Furnessville, Indiana, and of the three children of this union two are deceased,—a son and a daughter. The surviving son, Edwin Furness Leigh is manager of the Chicago Railway Equipment Company's plant at Marion, Indiana.

WILLIAM M. HOYT

Few, if any, of the living men of Chicago today can be any more consistently classed among the city's builders than Mr. Hoyt. A resident for more than fifty-seven years, his identification with the building up and development has been continuous. One of the leading wholesale grocers of the country, and a staunch Chicagoan, he was one of those heroic business men who did not lose their faith and pluck in the historic conflagration of 1871.

Mr. W. M. Hoyt was born in New Haven, Addison county, Vermont, on the

26th of July, 1837, being a son of Carlos M. and Lydia Ann (Buttolph) Hoyt. He is of the tenth generation of the American branch of the family, and a direct descendant of John Hoyt, who was one of the original settlers of Salisbury, Connecticut. Seth Hoyt, the grandfather, was a soldier of the Revolution, a justice of the peace in New Haven, Vermont, and one of the censors whose duty it was to pass upon the legislative acts and laws of the commonwealth.

The early life of W. M. Hoyt was spent upon the home farm and in obtaining an education in the public schools and the Ten Broeck Academy at Panton, Vermont. In 1855, at the age of eighteen, he located in Chicago, securing employment in a grocery store conducted by a Mr. Bevans. Eighteen months in this work was followed by a course of study in Bell's Commercial College, from which he graduated. After a service of another year on a salary, in the employment of a fruit dealer, he started business for himself with a capital of eighty-nine dollars, occupying a room for which the rental was one thousand one hundred dollars per annum. This was the real beginning of his notable business career. Opening as a small dealer in fruits, he later developed into a wholesale grocer, whose trade reaches all parts of the northwest and many sections of the United States.

In 1865, Mr. Hoyt bought the business of James A. Whitaker, at No. 101 South Water street. The great fire of 1871 not only swept away his store at the foot of Wabash avenue, but two stores which he then owned on Dearborn avenue. It was early in the forenoon of October 10 (the day after the fire) when he appeared to sign the lease with Mr. Welsh for the store at No. 63 South Canal street, whereupon the landlord remarked as he looked out of the window and saw the fire raging across the river, "Would it not be well to withhold our signatures until we know that this property may be destroyed?" To which Mr. Hoyt replied: "No harm in executing the lease now, as in case the store goes the lease will go with it." It was signed and after a few days he was offered a bonus for it, which was necessarily declined.

"On the evening of the same day," says a published account of his participations in these troublous times, "Mr. Hoyt took a train for New York, where he met his creditors, who were in great doubt as to what would be the outcome of their business in Chicago. After a short conference, in which Mr. Hoyt stated that he could not say how he stood as payment of insurance was in doubt and his books not balanced, but one thing was certain—he had a store rented and wanted stock with which to start. The creditors were unanimous in the opinion that it would be best to furnish the new supply and await further developments. The result was that remittances came in so freely that the creditors got all their dues promptly and one hundred cents on the dollar. The New York Times in an editorial announced Mr. Hoyt as the first arrival from Chicago since the fire, and mentioned the good results of the conference in which Chicago pluck would be met by New York generosity."

In 1872 Mr. Hoyt purchased the site of old Fort Dearborn at Michigan avenue and River street, opposite Rush street bridge, which he sold in 1910, and here he erected large salesrooms and warehouses. In addition, the company owned the building opposite, on River street which contained its coffee and spice mills. Because of the historic site of its main building, Mr. Hoyt built into one of its walls fronting the river a memorial tablet on which he

engraved a sketch of the forts (built 1803-4 and 1816) which once occupied this ground.

The William M. Hoyt Company was incorporated under the state laws in 1882, with the members of the old firm as stockholders, and its present officers are as follows: William M. Hoyt, president; R. J. Bennett, vice president; Alf Bennett, secretary and treasurer; Albert C. Buttolph, Otto C. Mattern, A. G. Bennett, Martin Edinger, Victor Stein and Mrs. Helen Stewart Doane, directors.

In 1910 this company erected at Twenty-second street and the river, one of the largest and probably the best arranged building devoted to wholesale grocery trade in the country. It has ideal shipping facilities by rail or water and affords accommodations for the various branches of the business.

On April 9, 1860, Mr. Hoyt married Miss Emilie J. Landon, daughter of Nelson Landon, of Benton, Lake county, Illinois, and they had four children, as follows: William Landon, who died when five years of age; Emilie Lydia, who died in 1903; Nelson Landon; and Phelps Buttolph, now deceased. The last named graduated from Yale University in 1893, was then engaged in the management of his father's real estate and later was identified with the wholesale grocery business. Outside of his great house, Mr. Hoyt is best known as the founder, in 1872, of the Grocer's Criterion, which has developed into the leading trade journal of its class in the United States.

Mr. Hoyt is an extensive owner of Chicago real estate, particularly in the downtown district, and though well past the allotted three score and ten, he gives no small amount of personal attention towards the management and direction of those interests unusually well preserved and with scarcely any perceptible diminution in his capacity for work, he is able to consult his pleasure in the matter of business application.

Inheriting a robust constitution, and naturally of great energy, the influence and aid of these characteristics, has been augmented by a life of regular and temperate habits, whose reward is founded in the vigor and vitality of one twenty years his junior. The following is so just an estimate of Mr. Hoyt's character that it is here reproduced: "Mr. Hoyt has been helpful to scores of young men who have gone to him for assistance. Many have been aided and encouraged by his counsel; others have obtained from him the necessary means to embark in business. His present partners were former clerks in his employ and were promoted to their present positions on account of business ability and valuable service. Partners with capital cut no figure with him. Honesty, good morals and good business ability he regards as far more valuable than cash capital. In this connection, Greame Stewart (now deceased) was for many years one of the prominent and active members of the company. His liberality in matters of charity is directed toward helping others to help themselves and many deserving charities find in him a liberal contributor. Though not a member of any church, he sympathized in a practical way with the charitable and Christian work of his wife." He erected a beautiful memorial church in Winnetka in memory of his daughter, Mrs. Fox, and her three children who perished in the Iroquois fire of December 30, 1903.

In politics Mr. Hoyt was a republican up to the time of Grover Cleveland's nomination. He then changed his party and helped elect the democratic candidate. He is a home man, having given up all his memberships in the various



R. J. Bennett

city clubs to which he was formerly a member. The game of golf is very popular with him. He feels that the exercise and outdoor life that he gets at the game is what has given him health as well as much pleasure. Mr. Hoyt's summer residence is in Winnetka, Illinois, and his winter home at Green Cove Spring, California.

ROBERT J. BENNETT

Robert J. Bennett was born at Pulaske, Oswego county, New York, February 9, 1839. His father, Reuben J. Bennett, came of a Scotch-Irish family which settled in Connecticut between the years 1650 and 1660, as nearly as known. On his mother's side he was removed but three generations from Ireland. The mother of Robert J. Bennett Alta (Haskins) Bennett, was a direct descendant and the sixth in line from Captain Miles Standish of Pilgrim fame. Vermont was her native state. These parents were intelligent, earnest and honest people, of the middle ranks, ready to do their part in the world's work and content with what they earned of worldly goods and honors. Any one might well be proud of such ancestry. In the winter and spring of 1844 they came west the second time, having settled at Roscoe, near Rockford, Illinois, in 1836. However, as no titles of land could then be obtained, the land being not yet in the market, they returned east. In 1844 Reuben J. Bennett again journeyed westward, being accompanied by his wife, three sons and two daughters. For a short time they lived in the light keeper's house which stood on the side of the "Barge office" at the south end of Rush street bridge. Soon afterward the family removed to Lake county, obtaining two hundred and forty acres (mostly of the government) near Diamond Lake, where our subject grew in age and strength for sixteen years. These were years of hard work and constant industry. Schools were few, often held in a vacant chamber or granary before harvest time. Of such advantages Robert J. Bennett availed himself to the utmost. At the age of eight he began to do a man's work, caring for a span of horses, harnessing them and plowing two acres or harrowing ten per day, besides milking cows, feeding pigs and calves. His father often made the declaration: "Robert is as good as a hired man." His school privileges were meager. At seventeen he began to teach country schools, following that profession during the winter seasons and later in the summer also. He was thus identified with educational interests until twenty-four years of age, earning a good name among teachers of that period. His last school was at Wheeling, Cook county, Illinois.

On the 9th of April, 1862, Mr. Bennett married Electa M. Hoyt and a year later came to Chicago as bookkeeper and cashier for W. M. Hoyt, then a dealer in fruits and fancy groceries at 15 Dearborn street. Two years later, in February, 1865, A. M. Fuller, a former pupil at Deerfield, joined Mr. Bennett in buying Mr. Hoyt's business, who went into heavy groceries on a wholesale scale. They began the business with practically no capital but worked strenuously and untiringly and prospered in a moderate way. In the great fire on the 9th of October, 1871, they lost their entire stock of goods. Available country accounts were equal to about seventy per cent of their liabilities. Mr.

Bennett asked for time, promising to pay in full—some time. Creditors said the firm could not do it and voluntarily agreed to take fifty per cent on the same terms asked. By 1875 they had paid one hundred cents on each dollar and six per cent interest for all the time creditors waited beyond the time named at purchase. This gave them credit far beyond that warranted by their means and again proved the value of a good name. On the 1st of August, 1874, the firms of Bennett & Fuller and W. M. Hoyt & Company united under the name of the latter and occupied the building at the corner of Michigan avenue and River street. Mr. Bennett took the financial management of the business, others attending to buying and selling. Through all the years of war and inflation, of later contractions, of panics and fire, the company and its members have not failed to pay one hundred cents on the dollar. Surely the Lord has been good to them and prospered them.

Two sons, Arthur G. and William Hoyt, and one daughter, now Mrs. Maude B. Vail, of Dixon, Illinois, came to Mr. and Mrs. Bennett. The parents have been active in the work of the Congregational church. Mr. Bennett has been director in two banks and vice president in one. He is a trustee of Wheaton College and also one of the trustees of the Young Men's Christian Association, being interested in the promotion of the Wilson avenue branch. To the interests of the Illinois Children's Home and Aid Society and the Chicago City Missionary Society a helping hand has been extended. In person Mr. Bennett is five feet nine inches in height, weighing about one hundred and seventy pounds. He is a gentleman of light complexion and is now white haired. His habits are simple and regular and he is a plain liver. He does not know the taste of beer or any kind of liquor and has never used tobacco, also abstaining from tea and coffee. Through a simple life he has passed three score years and ten in good health and cheer, answering well the prayer of Hagar: "Give me neither poverty nor riches;" and illustrating this, if anything, that of an honest walk along the middle lines of life one need not be ashamed.

CONTINENTAL BOLT & IRON WORKS

It is in the ponderous scope and variety of her manufacturing and commercial activities that Chicago has unrivaled status as one of the world's greatest industrial centers, and this publication thus exercises an important function when it gives contemporary record concerning those institutions which stand representative in their respective fields of enterprise and contribute definitely to the prestige and pre-eminence of the great western metropolis. The Continental Bolt & Iron Works, with headquarters at 2225 West Forty-third street, is specially entitled to such consideration in this history of the manufacturing and wholesale industries of Chicago. The corporate organization was effected in May, 1892, with a capital stock of fifty thousand dollars, and the original official corps was as here noted: Dexter P. Donelson, president; S. R. Hayden, secretary; and George E. Van Hagen, treasurer. A. Edgerton Adams and Frederick M. Steele likewise were interested in effecting the organization of the company. The first quarters of the new industry were established at the

corner of Michigan and Franklin streets, and the enterprise was initiated in a small way, as were many others that were founded about the time of the World's Columbian Exposition and that have grown to be strong and influential industries of the city. With the substantial expansion of the business the company required and obtained more eligible headquarters, removal having been made to the corner of Union and Lumber streets, where operations were continued with constantly cumulative success until 1910, when broader facilities were acquired by the purchasing of a tract of ten acres on West Forty-third street and erecting the present modern plant, which covers about one-half of the tract. The Continental Bolt & Iron Works is now the largest institution of its kind in Chicago, and its history has been one of consecutive growth and able and effective executive control. In the eventual reorganization of the company Mr. Donelson continued as the only one of the original stockholders, and his firm guidance and well ordered policies have been potent in the upbuilding of the substantial and important industry, he having continued as president of the company from the time of its organization to the present; J. G. Hempstead is now vice-president and secretary, and Clyde Ashley treasurer of the corporation, the capital stock of which has been increased to four hundred thousand dollars. In the plant employment is given to an average force of four hundred and fifty persons, including many highly skilled mechanics, and the trade of the concern extends through the middle west and to the Pacific coast states, with Chicago itself as the principal market for the high-grade products, which include bolts of various type and for innumerable purposes, special patents being controlled by the company on many of its machines and products, and the output including a varied line of iron and steel accessories for structural and other purposes.

DEXTER P. DONELSON

A vital factor in the industrial and commercial life of Chicago, Dexter Park Donelson, president of the corporation of which mention is made in the foregoing context, was born at Delaware, Judicial center of the Ohio county of the same name, and the date of his nativity was March 27, 1857. He is a son of Park S. and Katharine H. Donelson. He received in his youth the best of educational advantages, and in 1879 was graduated in Northwestern University, at Evanston, Illinois, with the degree of Bachelor of Arts. After leaving college Mr. Donelson entered the employ of the Deering Harvester Company, with which he remained seven years and with which he won advancement to the position of traffic manager. His entire business career has been one of close and progressive association with manufacturing and commercial enterprise, and concerning his part in the organizing of the Continental Bolt & Iron Company, in 1892, and in the development of the prosperous industry adequate mention has already been made.

Mr. Donelson has been in the most significant sense "a man diligent in business," and his close application and aggressive policies have gained to him a secure status as one of Chicago's representative captains of industry. He is a republican in his political allegiance and hold membership in the University Club, the Calumet Golf Club and the Glen View Club.

On the 14th of October, 1891, was solemnized the marriage of Mr. Donelson to Miss Harriet B. Hitchens, of Chicago, and of the two children of this union the elder is Katharine Dexter, the younger daughter, Lorraine, having died May 3, 1899. The family home is at 1118 East Forty-sixth street, in the fine Kenwood district of Chicago.

J. G. HEMPSTEAD

The vice-president and secretary of the Continental Bolt & Iron Works is a scion of the staunchest of Scottish lineage and takes satisfaction in advertising to the land of hills and heather as the place of his nativity. He was born in the town of Dunblane, Perthshire, Scotland, on the 24th of August, 1863, and was reared and educated in his native land, where also he served a most thorough apprenticeship as a machinist. In 1887 Mr. Hempstead, then a young man of twenty-four years, came to the United States, and for two years thereafter he was employed as a skilled mechanic in the Hinkley Locomotive Works, in the city of Boston. The next year found him in the employ of the Carnegie Steel Company, at Pittsburgh, Pennsylvania, and after severing this alliance he there continued three years in the employ of the Pittsburgh Locomotive Works. He next entered the service of the Jackson & Woodin Manufacturing Company, which was succeeded by the present American Car & Foundry Company, at Berwick, Pennsylvania, where he remained from January, 1894, until April, 1900. It was in the spring of the latter year that Mr. Hempstead came to the west and entered the employ of the Illinois Steel Company, at Joliet. There he remained until June, 1902, when he returned to Pittsburgh and took a responsible position with the Oliver Iron & Steel Company. In March, 1907, he severed this connection and entered the employ of the Wilmington Iron Company, at Wilmington, Delaware, where he remained until January, 1910, when he came to Chicago. In January of the following year he became secretary of the Continental Bolt & Iron Works and in January, 1912, he assumed also the office of vice-president, of which two executive posts he has since continued the incumbent. His superior skill as a machinist, his broad and varied experience and his well matured executive ability have come into effective play in furthering the advancement of the important concern of which he is a valued official, and he has entered fully into the progressive spirit that animates Chicago. He is a member of the Engineers Society of Western Pennsylvania, and a member of the Kenwood Club of Chicago, his residence being at 4903 Lake Park avenue, in the beautiful Kenwood district of the city.

In 1888 was solemnized the marriage of Mr. Hempstead to Miss Mary Evans, of Cornwall, England, and they have one son, James Evans Hempstead.

BUNTE BROTHERS

To note those enterprises which stand representative in their respective lines and have important bearing upon the industrial and commercial precedence of

Chicago is the primary function of this publication, and the corporation of Bunte Brothers, manufacturing confectioners, holds no inconspicuous place and is of no minor importance as touching the commercial activities of the western metropolis. Like many another enterprise that has grown to broad scope under the fostering influences of Chicago, the business of Bunte Brothers had a modest inception,—fully forty years ago,—and its consecutive expansion has been due to the high-grade products turned out and to fair and honorable dealings reinforced by the able and progressive executive policies of those who have been the conservators and directors of the now large and prosperous industrial enterprise. Operations of the Bunte Brothers are based on ample capital and all that thorough experience and scrupulous care can bestow, and in a relative way few similar concerns in the United States can justly claim precedence. The year 1917 witnesses a strong and legitimate action for the further fortifying and expanding of operations, with a notable increase in capitalization, and concerning this progressive movement more specific mention will be made in later paragraphs.

The constituent members of the firm that founded the business now conducted under the corporate title of Bunte Brothers were Ferdinand Bunte, Gustav A. Bunte and Charles A. Spoehr, who, in 1876, began the manufacturing of candy in a small way, at 416 State street. The partners had but limited capitalistic reinforcement and thus showed good judgment by adopting conservative methods and limiting the production of their establishment to the actual demands of the trade, their goods having originally been marketed through the medium of the wagon distributors of the city. Even as "good wine needs no bush," so the superiority of the output of the new establishment constituted its best advertising and commercial asset. At the beginning the principals in the enterprise adopted the policy of making the best possible grade of candy out of the best ingredients obtainable, and from this policy there has been not the slightest deviation during the long intervening years; in fact, the remarkable growth of the business is to be attributed largely to this fact. With increasing popular appreciation of the products of the Bunte factory there came a gradual and substantial expansion of the business, and soon the firm found that its accommodations, the store and basement at old No. 416 State street, were inadequate to meet the demands. Under these conditions removal was made to a building at 92-94 Wells street, and from this location a subsequent removal established the headquarters of the concern at 79-83 South Market street. Expediency was again consulted when removals were made in turn to 70-74 West Monroe street and finally to the present location, at 720 West Monroe street, where was brought into requisition the entire building of five floors and basement. In 1909 the business had attained to such large proportions that the company was compelled to erect a building that would greatly expand the accommodations. On the lot just to the west of the building occupied the company erected a modern eight-story building, and at the present time, in addition to those at 720 and 726-8 West Monroe street, the entire seven floors of the Gordon building, at 730-732 on the same street, are occupied by the concern, under lease. At the inception of the business employment was given to only six persons, and the wonderful growth of the enterprise is measurably indicated when it is stated that at the time of this writing the Bunte Brothers corporation retains in its employ approximately twelve hundred persons.

In 1903 the business was incorporated, with a capital stock of \$230,000, and in 1906 Mr. Spoehr sold his interest to the Bunte Brothers, whereupon the title of the corporation was changed to its present form, the original firm name having been Bunte Brothers & Spoehr, and upon the original incorporation, March 1, 1903, the title of Bunte, Spoehr & Company was adopted, so that the present Bunte Brothers corporation dates its inception from April, 1906. At this juncture the personnel of the official corps became as follows: Ferdinand Bunte, president; Gustav A. Bunte, treasurer; and Theodore W. Bunte, vice-president. There has been no cessation in the cumulative tendency of the business and the products of the Bunte establishment now find demand and sale from coast to coast in the United States, besides which a very substantial export trade has been developed,—in England, Scotland, China, Japan, the Philippine Islands, Australia, Alaska, Cuba and Hawaii. The principal products of the Bunte establishment are hard candies, "Diana" soft-stuffed hard candies, chocolates, Bunte marshmallows, Bunte menthol cough drops and "White House" chocolate and cocoa. Bunte marshmallows are sold in England at the rate of over twenty thousand pounds per annum. Bunte menthol cough drops are oversold for months in advance. "White House" chocolate and cocoa are handled by more than twenty-two hundred grocers in Chicago alone, and the demand more than tests the capacity of this department. Nearly every state in the Union is a buyer of Bunte candies, and a large and growing trade is done with South America and the far East. The foreign trade is greatest in the hard candies, which are not perishable. The business ideal of the concern from the time of its inception has been "Quality First." Only materials of the maximum purity are used in the Bunte candies,—pure cane sugar; milk, cream and butter from the best creameries; fruits, nuts, jellies and flavoring extracts of the highest grade. Bunte candies have millions of consumers,—\$2,360,376.25 worth of candy, at the wholesale or manufacturing price, was distributed in the year 1916. The company is represented in membership in the National Manufacturers' Association, the Chicago Association of Commerce, the National Association of Credit Men, the National Confectioners' Association and the Manufacturing Confectioners' Association of Illinois.

Realizing that advancement in facilities and financial reinforcement must keep pace with the great and continuous increase in the trade of the concern, the interested principals in the Bunte Brothers Corporation effected on the 1st of May, 1917, a recapitalization of the business, with one million dollars of seven per cent. cumulative preferred stock, at a par value of one hundred dollars, and an equal amount of common stock, at a par value of ten dollars. It had been found that the demand for the products of the company far exceeded the manufacturing capacity of the plant, and that for more than a year fifty to seventy-five thousand dollars' worth of new business per month had necessarily been refused for that reason. Concerning the changes thus inaugurated the following pertinent statements have been written:

"The purpose of the increase in capitalization to two million dollars is to permit the retirement of certain interests, the admittance of others and the greater expansion of the business. A new plant, proposed to be the most modern and efficient candy and chocolate factory in the United States, is to be erected immediately and will double the present manufacturing capacity. Theodore A. and Charles F. Bunte, managers of the business for many years, control the

majority interest in the concern,—Theodore as president and general manager, and Charles as vice-president and sales manager. Heretofore the company has been a very close corporation, and this financing, with incidental placing of the company's stock on the market, means simply a partial change in ownership, with the addition of men of special financial and business experience to the directorate. It is not prompted by the necessity for money or credit. The majority of the assets of the company are cash or in the nature of **very quick assets**, and the capitalization of the company is its only liability, with the exception of \$15,333.40 suspense items. The real estate might well be included as a quick asset, owing to its choice location and to the very conservative value at which it is carried on the books. In the assets are \$84,700 of high-grade negotiable real-estate first mortgages, representing unused and undivided cash surplus. It is evident that the company occupies an enviable cash and credit position."

January 1, 1917, prior to the increase of capital stock, the total assets of the company were placed at \$1,114,106.16, with authorized and issued capital stock represented at the time in a total of \$230,000. The most conservative of financial authorities have pronounced the preferred stock of the company under the reorganization to be very strongly secured and have recommended its purchase as a conservative, permanent and lucrative investment. Further recommendation is made in the following words: "We think also that the buyers of the common stock at this price will find it safe and an unusual money-maker, both from the viewpoint of dividends and rapid enhancement in market value. It is unusual that the public has the opportunity to participate in the profits of old-established Chicago industrial enterprises."

Not only commercial expediency was consulted in making this recent readjustment of the affairs of the Bunte Brothers corporation but there was also given special thought to making possible the retirement from active executive responsibilities of Ferdinand and Gustav A. Bunte, the veteran founders of the business. These sterling business men thus retired respectively from the offices of president and treasurer at the time of the movement for the recapitalization of their company was instituted, and in following reviews individual mention is made of them both, as well as of the present president and vice-president of the company.

One of the incidents in the life of Ferdinand Bunte, of frequent occurrence, that Mr. Bunte takes great pride in, was that while a U. S. soldier and on daily guard duty at the White House, where President Andrew Johnson passed him each morning, and in return for the soldier's salute, would greet Mr. Bunte with a pleasant smile in recognition for the soldierly manner in which he saluted the president. The manner of Bunte's salute was taught him in the German army and the manner in which it was rendered always brought that pleased smile to the president's face. To Mr. Bunte that smile was priceless, and he never forgot it.

FERDINAND BUNTE

A resident of Chicago for more than forty years, Mr. Bunte has marked these years with large and worthy achievement, as indicated in the foregoing article concerning the staunch business corporation of which he was one of the

founders and of which he served as president until the readjustment that was made in the spring of 1917, largely through the fact that he wished to retire from the executive office of which he had long been the incumbent and in which he was succeeded by his elder son, Theodore W., of whom individual mention will be made in an appending article.

Mr. Bunte was born in the town of Lemgo, Principality of Lippe, Germany, on the 16th of July, 1846, and is a son of Charles and Florence (Schamhard) Bunte. In his native land Mr. Bunte was afforded the advantages of excellent private schools, and he was an ambitious youth of nineteen years when he came to the United States, in 1865. In the city of Philadelphia virtually the first decisive action taken by him after his arrival in the land of his adoption was to join the United States Marine Corps, shortly before the close of the Civil war. After his enlistment his first act was to volunteer as a member of a crew of fourteen men to whom was assigned the guarding of the plague-stricken ship "Constellation," which was placed in quarantine, owing to the fact that the crew had been attacked by the dread scourge of black fever. The guards were assigned to duty on this vessel in order to prevent members of the crew from escaping therefrom and spreading the disease. The most of the ship's crew succumbed to the ravages of the fever, and of the fourteen volunteer guards nine contracted the disease and died therefrom. Mr. Bunte continued his service with the United States Marine Corps until 1867, and it was at this juncture in his career that he became identified with the candy business in Philadelphia, where he learned the practical details of manufacturing the best grades of confectionery and where he continued his residence until 1876. It was in that year, which marked the holding of the great Centennial Exposition in Philadelphia, that Mr. Bunte left that city and came to Chicago. Here he became associated with his brother, Gustav A., and with Charles A. Spoehr in establishing a wholesale and retail business, under the firm name of Bunte Brothers & Spoehr. Of the subsequent development and progress of the enterprise to its present important status adequate description has been given in the foregoing article. Mr. Bunte continued as the executive head of the business until May 9th, 1917, when he retired, after having long held assured vantage-ground as one of the successful and representative business men of the western metropolis.

Mr. Bunte has ever stood exponent of loyal and public-spirited citizenship, has taken deep interest in all things pertaining to the civic and material prosperity and advancement of Chicago, and in politics he maintains an independent attitude, giving his support to men and measures meeting the approval of his judgment, irrespective of strict partisan lines. He served three years as a member of the board of education of Rogers Park, prior to the annexation of that suburb to the city of Chicago, and the family residence is now at 425 Belmont avenue. In a fraternal way Mr. Bunte is affiliated with Park Lodge, No. 843, Ancient Free and Accepted Masons. From small beginnings Mr. Bunte has moved forward to the honorable distinction that marks the representative business man of Chicago, and his success has been on a parity with his well directed efforts and sterling attributes of character.

In the city of Philadelphia, on the 16th of August, 1868, was solemnized the marriage of Mr. Bunte to Miss Maria Fauss, who was born at Geislingen, Kingdom of Württemberg, Germany. Of their children the eldest is Theodore W., who is now president of the Bunte Brothers corporation; Charles F. is vice-

president of the company; Martha is the widow of William Künkele, of Gross Süssen, Würtemberg, Germany, where her husband was a prominent miller and influential citizen; Laura is the widow of Albert Künkele and resides at Urach, Würtemberg, Germany, where her husband was successfully established in the milling business at the time of his death; Florence is the wife of Walter E. Keefer, of Chicago.

GUSTAV A. BUNTE

After having been for forty years closely and graciously associated with his elder brother, Ferdinand, in the conducting of what is now one of the largest industrial concerns of its kind in the west, the corporation of Bunte Brothers, of which mention is made in a preceding article, Gustav A. Bunte virtually retired from active association with the management of the business at the same time as did his brother, in May, 1917, and the reasons for their retirement, after long years of earnest and prolific service, are indicated in the two sketches that preceded the one here presented. Mr. Bunte has been a resourceful factor in the upbuilding of the splendid industrial enterprise with which he became connected at the time of its inception, and he has gained and maintained assured place as one of the alert and influential business men of the city of Chicago. He still holds the office of treasurer of the corporation of Bunte Brothers.

Gustav A. Bunte was born at Lemgo, Principality of Lippe, Germany, and the date of his nativity was August 31, 1852. He was afforded in his youth the advantages of well conducted private schools and has been a resident of the United States since he was about fifteen years of age. His initial experience in the candy-manufacturing business was gained in the city of Philadelphia, where he was thus engaged from 1866 to 1869, in which latter year he came to Chicago. Here he has been continuously identified with the same line of industrial enterprise during the intervening period of nearly half a century and where his advancement has been virtually that which has attended the progress of the corporation in which he and his brothers long remained the dominating forces, as duly shown in foregoing articles.

Mr. Bunte is liberal and progressive in his civic attitude, pays unswerving allegiance to the city in which he has found opportunity to achieve success worthy of the name, and while independent in politics and never a seeker of public office, he has always been ready to lend his aid in the furtherance of those things that tend to advance the social and material welfare of his home city. He is identified with the Schwaben Verein, and with the Harmonie Maennerchor of Lake View, the family home being at 618 Fullerton avenue.

June 1, 1879, recorded the marriage of Mr. Bunte to Miss Phillippina Week, and they have three children,—Oscar C., Elsa Florentine, and Charlotte.

THEODORE W. BUNTE

The recently elected president of the corporation of Bunte Brothers has been a resourceful and influential factor in the management of the business and

succeeded his honored father, Ferdinand Bunte as its chief executive, as noted in the sketch of the career of the father. Mr. Bunte was born in the city of Philadelphia, Pennsylvania, on the 16th of January, 1870. He was about six years old at the time of the family removal to Chicago, and here he attended the public schools until he had attained to the age of fourteen years, when he positively declined to continue in school work, notwithstanding the expostulations of his father and the pleading of his mother. His insistent desire was to learn the confectioner's trade and to follow in the footsteps of his father. Though the latter believed that the boy should attend school and subjected him to several chastisements in the attempt to insure this end, he was finally convinced that the spirit and animus of the lad were marked by determination, and under these conditions he believed that possibly the desired result could be gained by assigning the son to arduous and menial work in the candy factory. This discipline, however, failed entirely to discourage the youth or to curb his ambition, and though his labors often left him greatly wearied at night he was always to be found at his post the next morning. Thus it was that before he had attained to the age of fifteen years he had gained practical and valuable experience in the factory conducted by his father and uncle, and by winning advancement step by step he fortified himself in thorough knowledge of all details of the business, developed remarkable business acumen and finally proved himself admirably equipped for administrative functions. His entire business career has been in connection with the large and important industrial and commercial enterprise of which he is now the executive head and in the upbuilding of which he has exerted potent influence. He has gained high reputation as the inventor of new and attractive varieties of fine confections and also of special machinery for the manufacturing of candies. Mr. Bunte has made numerous trips abroad for the purpose of investigating and studying the best European methods of candy manufacturing, and thus he has become recognized as an authority in the scientific and practical details of this line of enterprise, as well as in directing the commercial phases of the business. In the readjustment and expansion of the business of Bunte Brothers he and his brother Charles F., who is vice-president of the company, are manifesting the same admirable discrimination and progressiveness as did their father and uncle, who have now virtually retired and whose association gave title to the corporation, the same measure of fraternal consistency being thus perpetuated in the continuance of the business under the original title of Bunte Brothers.

Theodore W. Bunte is a man who has broadened his mental ken quite as effectually in the school of practical experience as he might had he consented to pursue a collegiate course, and thus he has fully justified what was looked upon as youthful obstinacy when he refused to attend school for a longer period in his boyhood. He is a broad-gauged business man and a loyal and progressive citizen, though not dominated by partisanship in the matter of political affiliation. He is a charter member of Park Lodge, No. 843, Ancient Free and Accepted Masons, and is affiliated also with other York Rite bodies, as well as those of the Ancient Accepted Royal Arch Rigers Chapter.

On June 10th, 1891, was solemnized the marriage of Mr. Bunte to Miss Anna Torkelson, of Chicago, and they have two children,—Harriet, who is the wife of Frederick Goss, of Chicago; and Ferdinand A., who has, in 1917, enlisted for

foreign service in the hospital corps of the United States Army, incidental to the great European war, in which the United States has become involved.

CHARLES F. BUNTE

In preceding articles has been given adequate outline of the development of the substantial industrial enterprise conducted by the corporation of Bunte Brothers, and Charles F. Bunte, a son of Ferdinand Bunte, became vice-president and sales director. He was born in the city of Philadelphia, on the 6th of February, 1872, and has been a resident of Chicago since he was a child of four years. In addition to availing himself fully of the advantages of the public schools of this city he attended also Ripon College, at Ripon, Wisconsin, and thereafter completed an effective course in the Bryant & Stratton Business College of Chicago, in which he was a member of the class of 1893. His entire business career has been marked by his close association with the what is now the corporation of Bunte Brothers, and for fourteen consecutive years he most effectively represented the concern as a traveling salesman, his territory having included the states of Illinois, Indiana and Wisconsin. He was thus thoroughly fortified in experience when he assumed charge of the productive or sales department of the business, and of this important department he has had full charge since 1907. Upon the reorganization of the company, in May, 1917, he was elected vice-president, and his is secure status as a thorough and circumspect force in successful merchandising, so that his resourcefulness comes effectively into play in the directing of the more specifically commercial activities of the old and well established industrial institution with which he has been identified from his early youth.

Mr. Bunte is independent in politics, is affiliated with the Masonic fraternity, and holds membership in the North Shore Golf Club.

April 20, 1899, recorded the marriage of Mr. Bunte to Miss Cecelia Olive Phillips, daughter of Peter Phillips, a prominent banker and influential citizen of Rogers Park, one of the fine North Shore suburbs of Chicago. Mr. and Mrs. Bunte have one daughter,—Catherine Marie.

OSCAR BUNTE

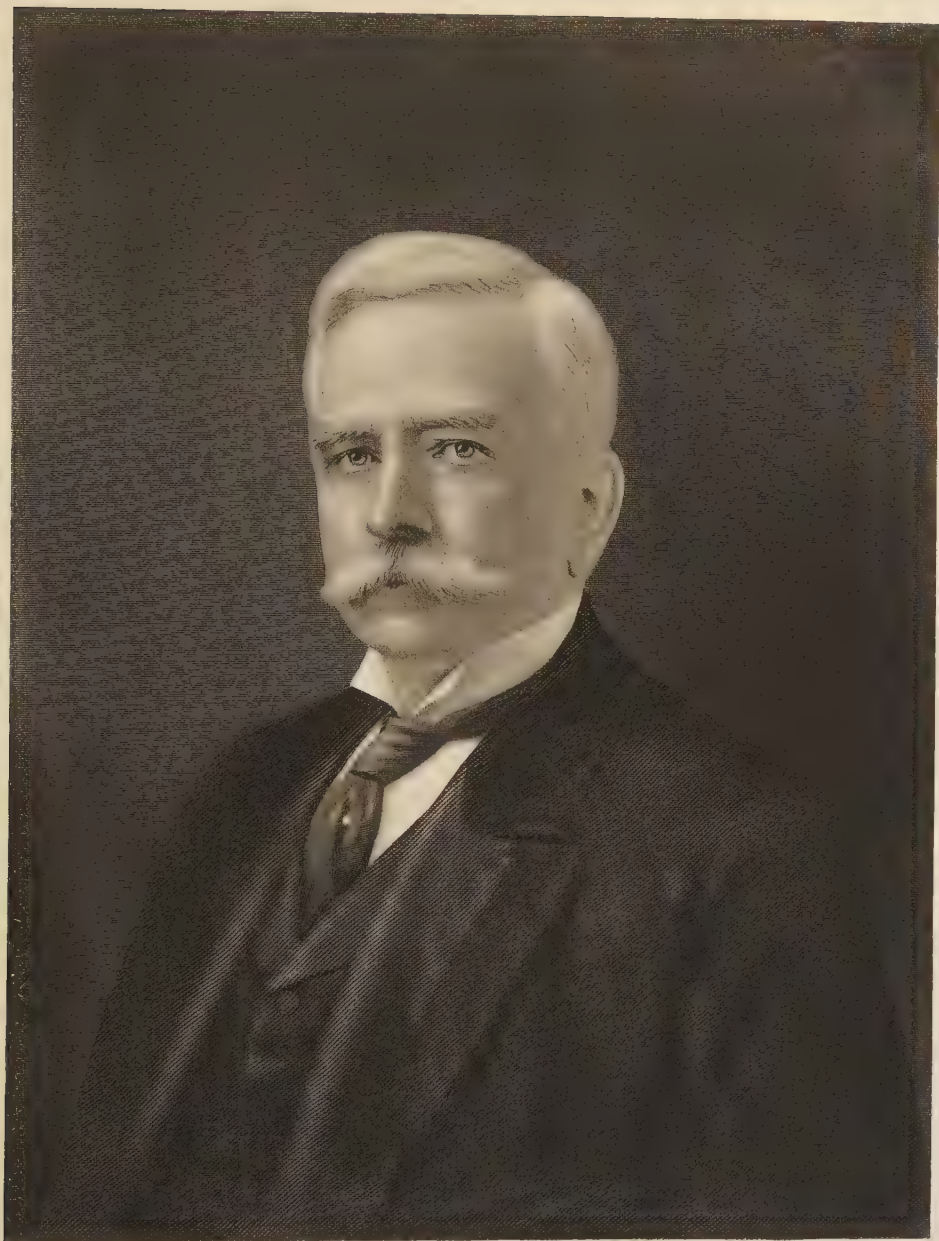
In technical ability and effective service Oscar Bunte is doing his part in the maintaining of the prominent status of the Bunte name in connection with the manufacturing of high-grade candies, and he holds a responsible clerical position in the establishment of Bunte Brothers. He was born in Chicago on the 27th of April, 1880, and is a son of Gustav Bunte, of whom mention has been made in a preceding article. He continued to attend the public schools until he was fifteen years of age and then showed the characteristic family ambition to become actively identified with productive business enterprise. At the age noted he entered the factory of Bunte Brothers, and he applied himself

diligently and earnestly in learning the practical details of the business, having insistently demanded the privilege of thus gaining experience rather than acquiring a higher academic education, as urged upon him by his parents. He has become an adept and authority in the manufacturing of fine chocolate confectionery, and to perfect himself in this branch of the business he went to Germany and made a careful and extended study of the production of such candies according to the approved system there in vogue. Since his return to Chicago he has been actively connected with the extensive industrial and commercial enterprise of Bunte Brothers and he has done much to further the success of the business, both along technical and executive lines. In 1908 Mr. Bunte wedded Miss Anna Peterson, of Chicago, and they have no children.

MARSHALL FIELD

To say that Marshall Field was the greatest merchant of his day is to proclaim that he was the most eminent merchant prince in the world's history; and both statements are true to the letter. In his boyhood he was noted for both industry and perseverance, and, carrying the same preeminent traits into his mature life, he came to tower above his fellow merchants of the great wroking world. He penetrated to the possibilities of men and business situations with lightning-like rapidity; the intellectual sweep with which he finally organized a magnificent mercantile house whose scope embraced both the old world and the new, proclaimed the man of vast power as well as penetration, and the unfailing courtesy and superb endurance of the man carried all before him. The old-time merchants of Stewart school had these qualities of polished granite, but Marshall Field added to them a world-view, and also the application of artistic genius to mercantile affairs and environment. He not only sold goods honestly and gave the people promptly what they wanted, but he educated their tastes, showed them beautiful and new creatures for their persons and their homes, and then met their advanced and more refined wants at as reasonable a cost as was compatible with honest goods and fair profit.

And when Marshall Field had personally progressed from the station of a raw clerk from the country districts of New England to a world wide eminence in the field of mastery, he was still a modest unassuming man. "There have been men," said a local journal on January 17, 1906, (the day after his death), "whom wealth has made purse proud, arrogant, offensive to their equals and tyrants to their employees. We are glad to say that Marshall Field was not one of them. Riches did not change his manners. He was never aggressive or pompous. There was in him no show of self conceit in manner or speech. His employees were attached to him. He treated them with the courtesy that was extended to everybody. He was as quiet or reserved, and as unostentatious when he was worth a hundred millions as when he was worth a thousandth part of that. He attended strictly to his own business which he understood perfectly, and did not meddle with that of others. He did not set himself up as the general instructor of the community. He asked the people to let him alone as regarded the just conduct of his affairs and he conceded to others the right he proclaimed for himself. In



ENGRAVED BY HENRY

Marshall Field

explanation of his life long inclinations to keep himself in the backgrounds, Marshall Field always said frankly that he preferred to work where he could do the most good, which in his case he claimed was remote from public platform and showy places. When counsel was asked of him, however, either as a member of society or a citizen of Chicago, he gave it with exceptional power and insight couching his arguments and his conclusions in straight forward, forcible language.

Mr. Field enjoyed the personal advantage that his physical appearance was in perfect keeping with his high and substantial character. Many noble men and women suffer a serious drawback through life because of physical characteristics which seem a brutal contradiction of the real soul of their being. But Marshall Field was both distinguished and genial in appearance, and all his features were strong and large. With white hair and mustache, high and broad forehead and calm yet penetrating gray-blue eyes shadowed by heavy brows, he was a man of marked bearing who at once commanded attention and respect. This superb personality originated and was nurtured near the little village of Conway, Massachusetts, the year of Marshall Field's birth being 1834. In this locality his ancestors settled in 1650. The family homestead was about one mile and a half from town, on the summit of a considerable elevation, which had long been known as Field's Hill. Forest-clad hills were all around and the panoramic view of meadows, brooks, nestling farms and villages, was something to soothe the mind for years after, in the smoke and bustle of great cities. Amid such surroundings were born and reared the four sons and two daughters comprising the Field Family, Marshall being the third child and son. When he was six years of age he commenced to attend winter school and within the next few years assumed the lead in such out-door sports as "Fox and Hound," which called for both speed and endurance.

Mr. Field became a resident of Chicago in 1856, so that the fifty years intervening between his majority and his death he devoted to the development of his house, his character and the upholding of the city's name for mercantile, commercial and civil honor. At the time of his arrival in the western city Cooley, Wadsworth & Company were proprietors of its leading dry-goods house. The population was estimated anywhere from sixty thousand inhabitants, which then seemed an empire of people to the young Massachusetts man. Although then unformed to city ways, when he said simply and firmly to the "boss" that he was a good clerk and could sell goods there was that about him which carried conviction; he was therefore engaged and in today's vernacular "made good." In January, 1860, he was admitted to the partnership and appointed manager of the business then conducted as Cooley, Farwell & Company, but after his association as Farwell, Field & Company. In 1860 Levi Z. Leiter also entered the firm, and in January, 1865, Potter Palmer (who already had been in business for thirty years) approached Messrs. Field and Leiter with the proposition to buy his dry-goods house, that he might retire and recuperate his broken health, and the firm of Field, Palmer & Leiter, which was formed January 11, 1865, transacted a flourishing business until 1867, when the notes were paid and Mr. Palmer's name dropped from the style.

The firm of Field, Leiter & Company was formed in January, 1867, and the following September their business was installed in a large building erected by Mr. Palmer on the northeast corner of State and Washington streets. For four

years and one month this was the grand center of dry-goods trade of the north-west, and at the time of the fire of 1871 their sales had reached the aggregate of eight million dollars. But the fire swept away the business, entailing a destruction of three million five hundred thousand dollars worth of property, with an insurance of two million five hundred thousand dollars. Before the ruins had ceased to smoke, temporary headquarters were established in the old street car barns, at the corner of State and Twelfth streets, and the business was there conducted until another store completed on the old site in 1873. Meantime a building had been erected at the corner of Market and Madison streets, and a portion of it occupied for retail purposes and known as Retail No. 2, for the benefit of patrons coming from the west and north sides of the city. With the completion of the State street store in 1873 the retail was separated from the wholesale business and transferred altogether to the State street concern. Fire again visited Marshall Field's State street store in 1877, the loss being seven hundred and twenty-five thousand dollars, but it was reopened in the following year, the business having in the meantime been carried on in temporary quarters. So the development of the gigantic enterprise continued apace, its intricate and powerful machinery hidden from the public by its continuous expansion indicated by the occupation of new space from year to year. In 1878 Higinbotham was admitted as a partner and in 1881 Mr. Leiter retired. From the latter year, for a quarter of a century, Mr. Field was the master spirit of the house.

In 1885 was commenced the vast granite structure covering the square bounded by Adams, Franklin, Fifth avenue and Quincy, for the accommodation of the wholesale business, and it was completed in 1887. The expansion of the retail department finally embraced the block bounded by State, Washington and Randolph streets and Wabash avenue has been covered with granite buildings twelve stories in height, the portion which was last obtained being the corner of Randolph street and Wabash avenue. The different structures are connected by covered bridgeways and for all conveniences are one. The Annex on the corner of Washington street and Wabash avenue, was completed in 1893; the Central Music Hall and other property was razed and replaced by the Field buildings in 1901-02; in 1905 the great store was extended north of the Annex along Wabash avenue, and during 1905 and 1906 the original building at the corner of State and Washington streets, which had been a mercantile mark for so many years, was taken down and replaced by the present immense granite frontage. The floor area of the retail establishment is now forty-one acres, and its employees number from six to nine thousand, according to the season. Some thirty-five hundred people are employed in the wholesale house.

Mr. Field's public works are numerous and important. In March, 1871, he took a leading part in the effort to merge the old Chicago Library Association into the Young Men's Christian Association. After the great fire he was one of the foremost to inspire hope, courage and confidence in business circles, and make possible the greater Chicago which arose from the ruins. His services in the distribution of money and supplies were valuable. Identified with the Chicago Relief Society from its organization, he was named by A. T. Stewart as first on the committee to control the fifty thousand dollars donated by him for the relief of women and children in Chicago. He was also for years a member of the Chicago Historical Society, aided in founding the Art Institute, was one of

the organizers of the Citizens' League and one of the charter members of the commercial club in 1877. In 1881 he aided in the establishment of the new Chicago Musical Festival Association and of the Chicago Manual Training School in 1882. To the latter he gave twenty thousand dollars, and to the new Chicago University he donated a tract of land near the Midway Plaisance, now valued at two hundred thousand dollars, and known as "Marshall Field." He was long a director of the Merchants' Loan & Trust Company, and was otherwise associated with many of the great commercial, financial and industrial enterprises which have made Chicago a world's metropolis. The climax of his public benefactions was the establishment of the Field Museum at Jackson Park, by provisions of his will, eight million dollars being bequeathed for its founding and support.

The death of Marshall Field, generally pronounced the foremost citizen of Chicago, certainly one of the greatest figures of his day, occurred at the Holland House, New York, where he was staying during an anticipated week's absence from Chicago, on the 16th of January, 1906. There were present at his death bed his wife (formerly Mrs. Arthur Caton) to whom he had been married only a few months, Mr. Stanley Field and Mrs. Marshall Field, Jr. The latter who was the widow of his only son, recalls the tragic death of Marshall Field, Jr., less than two months before, a blow to the father which he bore with dignified silence, but which is thought by those nearest to him to have broken him in spirit and body. The great bulk of his fortune amounting to perhaps one hundred millions of dollars, went to his two grandsons, Marshall Field III, and Henry Field. His only daughter Mrs. David Beatty, wife of Rear Admiral Beatty, of the British navy, inherited six million dollars, and Mrs. Delia S. Caton Field, the widow, as an ante-nuptial bequest, the magnificent family residence with contents and one million dollars.

THE PETER SCHUTTLE COMPANY

The name of Schuttler has been actively concerned with the manufacturing of wagons in Chicago since 1843, and the product of the present great factories of the company which perpetuates his name now go forth into the most diverse sections of the Union. Schuttler wagons were used as vehicles of transportation when the old time "prairie schooners" moved like caravans across the great and hazardous stretches of plains and prairies and over the mountains when the memorable discovery of gold in California, in 1849, called forth the adventurous and purposeful argonauts who were to be leaders in the march of progress through the west and in its construction of its special mountain wagons the company of the present day gives constant expression to the following statements: "Our experience in this line has been continuous since the Mormon exodus and the discovery of gold in California; our plant is specially equipped for this class of work, and with augmented facilities, long experience and continuous work, we can assure our patrons that the 'Old Reliable' will not old hold its enviable and well earned place in this field of usefulness but will also increase its lead over all others in the race of public favor."

Virtually all types of modern wagons are now manufactured by the Peter

Schuttler Company, and the name of the Schuttler wagon has been representative of the best values in this field of industry for nearly three-fourths of a century. It is but consonant, however, that in a prefatory way be reproduced, with minor elimination and paraphrase, a brief historical sketch that appears in one of the handsome catalogues of the Peter Schuttler Company:

"The pendulum of time has swung to and fro until now it makes seventy-five years since Peter Schuttler, the elder, nailed up his sign board on a one-story frame building on the southwest corner of Franklin and Randolph streets announcing to the 3,838 adult citizens of the then six-year-old city of Chicago that his vocation in life was that of a wagon maker, and thus impliedly asked for their patronage. The high grade and good repute of his work soon spread beyond the city limits, over the then rapidly growing middle west, and the stirring events of the Mormon exodus and the California gold fields carried the fame of his products across the entire continent. By this time extended brick buildings with power and machinery had long taken the place of wooden structures in which were employed spoke shaves, hand axes and foot lathes so that he left to posterity, in 1865, what was acknowledged to be the largest and best equipped farm wagon factory, at that period in this country. Unfortunately this magnificent structure, with all its machinery and contents, shared the fate of nearly all like enterprises in the great Chicago fire of 1871. He was succeeded by his son, the Peter Schuttler known to this generation, who with the inherent energy and enterprise of his father, began laying foundations for a new plant, on the northeast corner of Clinton and Monroe streets before the ruins of the Randolph street factory were cold. The capacity of the new institution was calculated to supply all future demands, but a few years demonstrated the error of this forecast of the increasing trade and popularity of the 'Old Reliable' Peter Schuttler Wagon, and as result the present up-to-date works, covering twenty acres of land, were inherited by Peter Schuttler's sons a few years ago. These sons will, as time progresses, demonstrate that they lack none of the progressive characteristics of their wagon-making forefathers.

"The history, therefore, of this world famed wagon is closely linked with that of our city, and as a wagon is the forerunner of civilization, it is thoroughly identified with all the stirring times and eventful experiences of pioneer life in the westward march of civilization. Pioneer honors rest with the name of Peter Schuttler and the present great plant of the Peter Schuttler Co. at Twenty-second and Rockwell streets, Chicago, equally represents the highest types of twentieth century industrialism. The company has general agencies in leading cities in the West and South and also maintains numerous transfer warehouses for expediting service throughout its far stretching trade territory."

PETER SCHUTTLE I.

The sturdy and honored Chicago pioneer in the industry of wagon manufacturing was born in the village of Wachenheim, Hesse-Darmstadt, Germany, December 22, 1812, and at his Chicago home his death occurred January 16, 1865. About the time of attaining to his legal majority in 1834, Mr. Schuttler immigrated

to America, and the sailing vessel in which he took passage from Harve did not reach its destination, the port of New York city, until after a weary voyage of fifty-four days, before the expiration of which lack of adequate food added to discomfort of the passengers. The ambitious young man found employment in a wagon shop about five miles distant from Buffalo, New York, where he received seven dollars a month and somewhat uncertain board in compensation for his services. Here his inventive services was soon manifested in his substitution of the saw for the ax in cutting out gearing with the resultant saving of time and material. After the lapse of about one year he removed to Cleveland, Ohio, where with limited capital he engaged in business for himself. He manufactured a large stock of sleighs and as he found no buyers for them he was compelled to abandon his new enterprise. With his financial resources reduced to only ten shillings, according to the common monetary designation of the times, he made his way to Sandusky, where he applied himself with diligence to mechanical work and contrived to save a few hundred dollars. He remained at Sandusky for six years and in the meanwhile married Miss Dorothy Gauch, a native of Prussia. They became the parents of two children, Catherine and Peter. In 1843 he came with his family to Chicago, and finally rented a lot on Randolph street at the corner of Franklin street where he established his first shop, a board shanty at the rear constituting the family domicile. Here for a long time he worked an average of eighteen hours a day, and eventually was able to employ assistants in his little shop, where all operations were performed by hand until he invented a lathe and other applicable machinery which was at first propelled by horse power. In 1847 he took possession of his first brick shop, forty by seventy feet in lateral dimensions and four stories in height. Here he added to his business the manufacture of buggies, carriages and harness as well as wagons. In 1850 he met with severe losses by fire, the insurance companies having refused to pay the indemnity which was his due, and his consequent antipathy having been such that he never thereafter consented to take out an insurance policy. After 1850 the business of Mr. Schuttler was prosperous, without serious interruption. Concerning his activities in the period the following statements have been written. "He gave up the manufacture of carriages and devoted his attention exclusively to the manufacture of wagons procuring new machinery, most of which he fixed himself, and thence forward manufactured everything from raw material. The demand increased rapidly and his vehicle soon displaced the old-time prairie schooners, till then in universal use. In 1855 the fame of his wagons had reached the Mormons and after trying others they bought a lot of thirty-five from him, warranted to carry 3,500 pounds each across the plains. The wagons were loaded to that extent and reached Salt Lake City in as good condition as when they started. This secured to him the trade of the Mormons who gave him a premium of fifty dollars on his wagons, as in comparison with others offered. His wagons were also bought largely for the traffic across the plains.

PETER SCHUTTLE II.

Well did Peter Schuttler II. uphold the prestige of the family name, both as a citizen and as a veritable captain of industry. He was the successor of his

father in the manufacturing of wagons. He was born in Sandusky, Ohio, September 19, 1841, and he was president of the Peter Schuttler Company at the time of his death which occurred in 1906. He was two years of age at the time of the family removal to Chicago and here he passed the residue of his honorable and successful life. He was afforded the advantage of the public schools, and in 1855 he accompanied his father to Germany, where he made a special study of the language of his forebears. Later he attended the Polytechnic school at Mannheim, on the Rhine, where he remained five years and gave special attention to drafting and machine building, under most competent instructors. After his return to Chicago he entered business college for one year and he then took charge of the books in his father's factory. He became manager of the business upon the death of his father and was made the administrator of the latter's estate. Upon his able and careful administration the business of the company grew to mammoth proportions and Chicago shall long pay tribute to his memory as that of a citizen in the upbuilding of one of the city's great industrial enterprises. His sons have control of the business of which he was long the executive head.

PETER SCHUTTLE III.

Peter Schuttler III. is making a place of his own as one of the vigorous and resourceful business men of his native city and worthy successor in the controlling of the important manufacturing industry that was founded by his grandfather, as noted in foregoing articles. He was born in Chicago on the 20th of May, 1873, and is a son of Peter and Minnie (Anheuser) Schuttler. His youthful education was acquired in the public schools of Chicago and a prominent collegiate preparatory school in the state of Pennsylvania. In 1893 he took a position in the purchasing department of the wagon manufactory of which his father was then the executive head, and upon the incorporation of the company, 1902, he assumed the position of treasurer. In 1905 he was made vice-president of the Peter Schuttler Company, and upon the death of his honored father, in the following year, he became the latter's successor in the office of president of the corporation, a position of which he has since continued the able and progressive incumbent. Mr. Schuttler takes a broad minded interest in public and general civic affairs, and holds membership in a number of representative social organizations, including the Chicago Athletic Association and the South Shore Country Club, his chief recreation being gained through the medium of motoring, golf and hunting.

On the first of November, 1898, was solemnized the marriage of Mr. Schuttler to Miss Martha Braun, of Chicago, and they have two children.—Peter IV and Richard.

GEO. B. CARPENTER & CO.

General Supplies, Machinery and Equipment

The business of Geo. B. Carpenter & Co., was established in 1840, under the style of Foster and Robb. At that time its activities were confined to ship chand-

lery and sail-making. About ten years later the style changed to Hubbard and Robb, and in the early seventies became Gilbert Hubbard and Company, a co-partnership composed of Gilbert Hubbard, Geo. B. Carpenter and J. Spencer Turner. Mr. Turner retired in 1870, and on Mr. Hubbard's death in 1881, Geo. B. Carpenter became the sole proprietor, and changed the name of the concern to Geo. B. Carpenter & Co. In 1888 he admitted to partnership, his son, Benjamin Carpenter, and in 1901 two younger sons, Hubbard Carpenter, and John A. Carpenter. The business continued as a co-partnership until succeeded by the present company which was incorporated under the laws of Illinois, January 11th, 1909. Geo. B. Carpenter was president until his death, December 11th, 1912. He was succeeded in the office of President, by his son, Benjamin Carpenter, the present head of the Company, who, with his three brothers, are the active heads and the principal share-holders of the business.

The Company was located at the corner of South Water street and Fifth avenue, Chicago, from 1857 until 1912, when it moved to its present quarters at 430-440 Wells street, where it occupies a modern eight-story sprinkled business building, under long term lease. The Company still owns its old quarters at Fifth avenue and South Water street, and it also owns warehouses and barns at 340 to 356 West Grand avenue, about four blocks distant from their main store and office building.

For the benefit of those who have not had intimate dealings with Geo. B. Carpenter & Co., it may be stated that the principal staples handled by the Company, are, Cotton Duck, Cordage, Twines, Rubber Goods, Contractors' Hardware and Tools, Marine Hardware, Tents, Awnings, Flags, and all kinds of manufactured canvas goods. We shall take up these lines department by department, in order to give our readers a closer view of this fine old concern. Now-a-days mere age counts for little unless the experience gained and strength acquired make for better service and greater usefulness. These are days of high speed, high tension, and great responsibilities. Wide awake new methods are necessary to meet the demands of modern business. It is quite evident that Geo. B. Carpenter & Co. are keeping step with the foremost in the procession.

CORDAGE DEPARTMENT—For seventy-seven years rope and twine have been big staples in their business. They have specialized on these goods, as have few other merchants in this country. They have studied the industry long and carefully. They have backed their judgment and they have been successful, and the one big reason for their success is the simple fact that they know the right rope or twine for every particular use, and what is more they carry it on stock.

There are many factors in this seemingly simple question, but they all boil down to strength, usability durability and price, and the proper balance of these four factors applied to the various needs of their customers is what their experts are working on all the time.

It is right here that the big value of their service comes in by offering the best rope or twine for every purpose. All that is necessary is to tell them the use to which the material is to be put and they can supply the right cordage at the right price.

No concern in the United States carries a more diverse and comprehensive stock of cordage and twines than they do. No concern carries a larger stock or

does a larger business, or tries harder to give its customers intelligent service, fair prices and a square deal.

COTTON GOODS DEPARTMENT—This department is one of the largest and most important comprised in the Carpenter business. It is a natural outgrowth of the tent and awning manufacture which in the early days constituted one of the principal activities of the company. From the manufacture of tents and awnings, it was an easy and logical step to the jobbing of tent and awning supplies to other manufacturers in the middle west, and the present scope of the Cotton Goods jobbing department of Geo. B. Carpenter & Co. is country wide and of first importance.

In this department they carry a large and varied stock of cotton fabrics used by Tent and Awning makers, Car Builders, Trunk Makers, Contractors, Sail-makers, Ship Builders, Railroads, Camp Furniture Manufacturers, Wagon Builders, Roofers, Book Binders, etc.

In this same department are also handled various closely related lines, such as Cotton Rope, Awning Braids, Threads, Fringes, Webbing, Tapes, Awning Hardware, Cotton Seine Twine, etc. In short, no dependable canvas fabric or accessory known to the industry is omitted from their stock, and they are constantly adding new lines to take care of the increasing demands of the trade.

HARDWARE DEPARTMENT—Following the policy which has guided them in the selection of all their lines of merchandise, the Hardware Department represents only the "Survival of the Fittest." Every item in the line has been chosen from the standpoint of the *user*—with an eye to value rather than salability.

The original foundation of this department rested upon their trade with contractors, railroads and marine transportation interests, where their goods are expected to protect life and limb. It is self-evident that inferior goods have no place in exacting conditions of that nature. "Value First" is not only the best policy—it is the only policy and the cheapest insurance.

Starting therefore with a high ideal of their obligations to the trade, they have gradually enlarged and extended their activity in the hardware field, until they are now able to offer a wide range of goods which they can state confidently are the very best of their various kinds.

Some of the leading items in the line are: Wire rope, Steel and wood tackle blocks, chain hoists, well machinery, concrete mixers, power transmission equipment, iron pipe and pipe fittings, carpenters, machinists' and engineers' tools, gas engines and naval stores.

• **RUBBER DEPARTMENT**—Geo. B. Carpenter & Co. occupy a unique position in the rubber goods field. They have handled this line of goods for over thirty years as special agents and distributors for some of the largest manufacturers in the United States. Their activities have brought them in touch not only with the users of the goods and their special requirements, but also with the actual manufacture of all the different items in this important line. They have accumulated an intimate knowledge therefore, of both ends of the game. This knowledge is at your service. Furthermore, they have a great additional advantage in not being tied up to any one line of goods.

It is a self-evident proposition that all manufacturers have their particular specialty. Out of one factory will come the best belt; out of another factory will come the best hose; from still another the best packings. Their independent position coupled with their big outlet and enormous distributing power enables them to select the best items from each manufacturer's line. This policy has resulted in an "All Star Line."

The greater part of these goods is made up in accordance with special formulae, particularly adapted to the needs of their trade, and are offered under their own brands and their own guarantee.

MARINE DEPARTMENT—The Marine Supply Department in point of age represents the corner stone of the Carpenter business. There has always been a very definite link binding it to the maritime interests and to "the men who go down to the sea in ships." There is a good, old tarry smell which seems to permeate the various stockrooms, which suggests all sorts of romantic associations.

Of late years the development of the gasoline engine driven boat has had a very marked effect on the character of the stock of marine accessories carried in the Marine Department. Relatively speaking, the sail boat has been temporarily eclipsed in popularity by the gasoline motor boat but the Carpenter stock comprises all the approved staples and accessories for the above class of boats.

SOUTH CHICAGO BRANCH—In addition to their downtown store and offices, Geo. B. Carpenter & Co. are also closely affiliated with the Great Lakes Supply Company, owning the large majority of the stock of this subsidiary concern, and operating it virtually as their local distributing agency for their trade in the Calumet region. The business of the South Chicago branch has grown to such proportions that they have recently added a new warehouse to the South Chicago equipment, to take care of stock of pipe, fittings, steel, iron, cordage and heavy hardware, and better serve the large business originating along the Calumet river. The new warehouse is 230 feet long by 80 feet wide. It is equipped with five standard gauge railroad tracks, running the entire length of the building, and permits the loading and unloading of a large number of cars under roof, and very frequently the transfer of material direct from the mill car to delivery truck.

No historical investigation of Chicago's pioneer business houses would be complete without a reference to this fine and representative concern. Their roots are planted firmly in the very beginnings of historical Chicago, and they stand now, and will continue to stand, as one of the pillars of liberal and enlightened efficiency in the development of the Middle West.

THE SELLERS MANUFACTURING COMPANY

Under the above corporate title is conducted an important and successful industrial enterprise in the manufacturing of splice bars for railroads and the handling of other improved types of railway supplies. By this company are

produced the celebrated Anchor Bottom Tie Plates, which are utilized by railroads throughout the United States, Canada and Mexico, and the business of the concern has attained to large volume, as shown in the fact that the output of the extensive and modern manufactory aggregates from forty-five thousand to fifty thousand tons annually, the average force of employes being four hundred and fifty men and the manufacturing plant being the largest institution of its kind in the world,—a fact that implies its important bearing in connection with the industrial pre-eminence of Chicago. The late Morris Sellers, the honored founder of this representative industry, long held a position of prominence and influence in connection with railway interests in the United States and may consistently be said to have been a pioneer in railway development in America, besides which his association with industrial activities in Chicago had inception more than sixty years ago. He left a distinct and worthy impress upon the history of industrial and civic progress in the western metropolis and in a memoir that will follow this review will be given a brief outline of his earnest and successful career.

The business now controlled by the Sellers Manufacturing Company may be said to have been founded in 1876, and apropos of this statement are the following quotations:

“Morris Sellers returned to Chicago in 1875 and opened an office in the old Ashland block, as the representative of the Westinghouse Air Brake Company, the Pittsburgh Locomotive Works and other great concerns identified with the production of railway appliances. The following summer his attention was attracted to a device for the fastening of the ends of railroad bars, thus making a practically unbroken track. His mechanical ability and broad experience caused him to appreciate the inherent value of the device and the need of certain improvements on the original design. To compass the desired ends he secured a controlling interest in the invention, and later purchased all the rights to its use. After effecting the desired improvements he built the first mill for the exclusive manufacture of splice bars in Chicago. In this, as in all other matters relative to the mechanical appliances of railway work, Mr. Sellers met with instant and marked success. The constantly expanding industrial enterprise was conducted under the title of Morris Sellers & Company until 1894, when the business was incorporated under the present name of the Sellers Manufacturing Company, Mr. Sellers continuing as president of the company until 1913 and as a director thereafter until his death.”

The original manufacturing plant was located at Chicago avenue and the Chicago river, and in 1908 the present extensive and modern plant, in the suburb of Mayfair, was erected, the same occupying a tract of twenty acres. The enterprise is confined exclusively to the manufacturing of the Anchor Bottom Tie Plates, which are recognized as the standard product of the kind and are utilized by virtually all railways throughout the United States, as well as the representative lines in the Canadian provinces and in Mexico. Morris Sellers continued as president of the company until 1913, as before noted, and was succeeded by his only son, John M., who had previously been vice-president and general manager and who has continued as the chief executive of the important business to the present time. Like his father, he has shown marked initiative and constructive ability in connection with industrial affairs of broad scope and of his activities

as a man of affairs more specific mention is made in an article following the memorial tribute to his father.

MORRIS SELLERS

The late Morris Sellers was distinctly a man of intellectual power and mature judgment,—one whose mental conceptions were forcefully expressed in action and in large and worthy achievement. In the field of productive industrialism he accomplished much and even the briefest review of his life history can not fail to offer its mode of lesson and incentive. Mr. Sellers was born in the city of Philadelphia, Pennsylvania, November 14, 1832, a son of Charles and Elizabeth (Morris) Sellers, and a descendant of one of the old and honored families of the Keystone state. The original American representative of the Sellers family was John Sellers, who was a zealous member of the Society of Friends and who came to America in 1682, with William Penn, who in that year made his second voyage to the new world. This sturdy ancestor was an expert mechanic and it has been consistently said that from him has descended a long line of men who have engaged in the mechanical arts and many of whom have achieved international reputation along this line. Further ancestral data of interest are revealed in the following quotations: "To this mechanical view was added new blood by the marriage of Mr. Sellers' paternal grandfather to Sophinisba Peale, daughter of the noted artist and scientist, Charles Wilson Peale, whose masterful reputation in art, especially in portraiture, is second only to his fame apropos of his scientific labors in the collection of mechanical novelties and historical specimens in what is known as the Peale Museum, in Philadelphia."

During the decade prior to 1839 Charles Sellers, father of the subject of this memoir, was associated with his brother George in the conducting of a manufacturing business in which they had succeeded their father and their grandfather, this manufactory having been established at Cardington, now a suburb of Philadelphia. In this pioneer manufactory were produced carding machines and steam and fire engines, and in 1835 the factory constructed several locomotives for the Pennsylvania States Railroad, the predecessor of the great Pennsylvania Railroad system of the present day, these having been among the first locomotives manufactured in America in competition with manufacturers in England. This old-established industrial enterprise met with disaster in the financial panic of 1839, and the two brothers then removed with their families to Cincinnati, Ohio. There Charles Sellers became associated with others in establishing the Globe iron-rolling mill, to which was attached the first wire-drawing mill west of the Alleghany mountains.

Morris Sellers was a lad of six years at the time of the family removal to Cincinnati and after completing the curriculum of the common schools he there entered Woodward College, in which institution he was eventually graduated. After leaving college Mr. Sellers was associated with his father in the construction of a blast furnace in middle Tennessee, where the father had purchased a large tract of mineral land and prepared for the manufacturing of

pig iron. Of the career of Mr. Sellers from that time forward the following interesting data are available:

"After a short experience in Tennessee Mr. Sellers entered the employ of the celebrated Duff Green, editor of the Congressional Globe, and later he began his railroad career by obtaining employment upon the old Georgia state road. Wishing, however, to return to the north, he secured a position on the Bellefontaine & Indiana Railroad, now a part of the Cleveland, Cincinnati, Chicago & St. Louis Railroad, and here he had the distinction of running the first passenger locomotive purchased by the company. After the road was completed to Indianapolis Mr. Sellers was taken off the train service and assigned to the placing of the engine shafting and tools in the Galion repair shop. After the completion of this service he was employed for a time in the locomotive works in Cincinnati, but in the winter of 1854-5 he secured a position with the Michigan Central Railroad Company and came to Chicago. Here Mr. Sellers' first employment was that of locomotive engineer in charge of the hauling of gravel from Hyde Park to the foot of Randolph street and making the first filling of the large tract now occupied by the tracks of the Illinois Central and Michigan Central Railroads, Grant Park and numerous costly buildings. From service in Chicago Mr. Sellers was transferred to Michigan City, where he took charge of the Michigan Central repair shop, and later he removed to Peoria, Illinois, where he assumed the position of master mechanic and assistant superintendent of the old Peoria & Oquawka Railroad, which is now a part of the Burlington system. His next service was with the Pennsylvania Railroad, as foreman in charge of all passenger locomotives between Pittsburgh and Harrisburg. Shortly after this Mr. Sellers, who was barely twenty-eight years of age, accepted the position of assistant superintendent of a new road, known as the Des Moines Valley Railroad, and under his management the road, now a part of the Chicago & Rock Island system, was extended to Fort Dodge, Iowa.

"By this time Mr. Sellers had acquired a wide and valuable acquaintance with railroad men. He was known as a man possessed of great executive ability as well as mechanical skill, and this led, in 1871, to his introduction to the director of the Westinghouse Air Brake Company and to his being engaged to introduce the meritorious but then little known air brake. Within three years Mr. Sellers had placed the Westinghouse brake on ninety per cent. of all railroads operating in the United States and Canada."

In a preceding paragraph it has been noted that in 1875 Mr. Sellers returned to Chicago and founded the business now conducted by the Sellers Manufacturing Company, concerning his connection with which due record has been given in the foregoing article. He became concerned also with the Hewitt Manufacturing Company, of which he was president for a time, as was he also of the Chicago Drop Forge & Foundry Company. He was a director of the Harvey Steel Car & Land Association and a member of the committee which had charge of the building and equipping of the Grant Locomotive Works, of which corporation he was a director. Mr. Sellers found aside from his large and important business activities his chief interests centered in his home, the associations of which were of ideal order, but his delight in sports afield and afloat was signalized by his membership in the Nee-Pee-Nauk Club, of Wisconsin, and the Swan Lake Shooting Club, of Illinois. Though he continued president of the Sellers Manufactur-

ing Company until 1913 he virtually retired from active business in 1910, and he was one of the venerable and honored captains of industry in Chicago at the time of his death, which occurred May 16, 1917 at the home of his son John W. with whom he spent the latter years of his life.

In 1854 Mr. Sellers wedded Miss Manda Patterson, of Cincinnati, Ohio, and her death occurred a few years later, the one child of this union being Lulu, who is the wife of P. A. Largey, of Butte, Montana. The second marriage of Mr. Sellers was to Miss Rosa McCune, daughter of one of the honored pioneers of Keokuk, Iowa, and she survives him, as do also their three children,—John M., who is individually mentioned in a following article; Blanche, who is the wife of Rudolph Ortmann; and Elizabeth M., who is the wife of Horace C. Hutchins.

JOHN M. SELLERS

The context of the two preceding articles gives adequate data concerning the Sellers Manufacturing Company, of which important industrial corporation John Morris Sellers is now president, and it may consistently be said that both as a progressive citizen and influential figure in industrial activities in Chicago he is well upholding the prestige of the honored name which he bears.

The only son of Morris and Rosie (McCune) Sellers, John M. Sellers was born at Keokuk, Iowa, on the 12th of August, 1865, and he was a lad of about six years when, in 1871, the family home was established in Allegheny City, Pennsylvania, where he obtained his preliminary education in the public schools. He was ten years of age when the family removed to Chicago, where he continued his studies until he had completed the curriculum of the high school and also that of the Chicago Manual Training School, in which he was graduated as a member of the class of 1885. He then became an employe in the factory of his father and in 1887 he was made superintendent of the Hewitt Manufacturing Company, of which his father was then president. After two years he resumed his active association with Morris Sellers & Company, as superintendent of the manufactory, and of this position he continued the incumbent until 1893, when he was fortunate in discovering valuable iron deposits while on a prospecting tour on the now celebrated Mesaba iron range in Minnesota. There he developed and owned the Sellers mines, at Hibbing, and his operations were attended with marked success. Upon the incorporation of the Sellers Manufacturing Company, in 1894, as successor of Morris Sellers & Company, he became vice-president and general manager of the company, after having sold his mining property advantageously, to the United States Steel Corporation. In 1913 he was elected president of the Sellers Manufacturing Company, as successor of his father, and since that time he has given his close attention to the affairs of this large and important industrial corporation, description of which has been given in a foregoing article. Though he has had no desire to enter the arena of practical politics, Mr. Sellers gives staunch allegiance to the Republican party and is significantly loyal and public-spirited as a citizen, taking much interest in all that touches the welfare and advancement of his home city. He holds membership in the Chicago Club, the Chicago Athletic Association, the Glen View Club, the Grand Island Lodge,

which is a sportman's organization at Bath, Illinois, and the Chicago Golf Club, of which he was vice-president in 1917.

On the 19th of April, 1915, was solemnized the marriage of Mr. Sellers to Miss Mary Ducat, daughter of General Arthur C. Ducat, of Chicago, and they reside in the attractive suburb of Downers Grove.

SAMUEL MILES HASTINGS

Samuel Miles Hastings, merchant and manufacturer, was born at Rimersburg, Pa., August 14, 1860, of the marriage of Eli Hastings and Rachel Whitehall Kerr. He is of Revolutionary stock, his great-grandfather, John Hastings, of Lancaster County, Pa., having been regularly enlisted in the 2d company of the 1st Battalion of the militia of his county, and having seen service in the War for Independence. Enoch Hastings, one of John's uncles, commanded the company.

Samuel Hastings' father removed with his family to Illinois in 1866, locating on a farm near Gardner. His early boyhood was spent on the farm. His only regular school attendance was at the public schools of Gardner, Illinois, but in after life he materially supplemented his school work by self instruction.

The self-reliance and spirit of independence so characteristic of the man early manifested themselves in the youth, and at the age of fifteen years he was earning his own livelihood by clerking in a dry-goods store in the little town of Braidwood, Illinois. Before he had reached his majority he had established there a retail dry-goods business of his own, which he conducted successfully until he removed to Streator, Illinois, in 1884.

In 1889 Mr. Hastings removed to Chicago, where he soon became engaged in the business to which he has devoted the greater portion of his maturer years, that of manufacturing and selling computing scales. That industry was comparatively in its infancy when he became connected with it, and much of its subsequent remarkable growth and development is due to his efforts.

In 1899 he and his associates organized the Moneyweight Scale Company, with its principle office in Chicago, to carry on the selling end of the business; and he was made its vice-president, secretary and treasurer, and has so remained ever since. He is also a director and executive officer of the following affiliated companies: The Computing Scale Company, of Dayton, Ohio; the Computing Scale Company of America, a New Jersey corporation; The Computing Scale Company of Canada, Ltd., and the Detroit Automatic Scale Company. He is also a director of the Computing-Tabulating-Recording Company, of New York; the Green Engineering Company, of Chicago; and The National Produce Bank, of Chicago.

Since going to Chicago Mr. Hastings has given generously of his time and energy to the interests of manufacturing throughout the state and nation. He served for three years previous to his election in December, 1915, to the office of its President, as Treasurer of the Illinois Manufacturers' Association, an organization of wide and powerful influence. He is a ready and forceful speaker of attractive presence and pleasing voice; which fact, together with his prom-



Samuel, M. Hastings

inence in the business world, causes him to be in growing demand, in such a capacity, upon formal and informal occasions. During his incumbancy of the presidency of the organization just mentioned the great European War was frequently calling to the fore questions of state particularly affecting manufacturers and dealers in foreign trade; and Mr. Hastings' published official interviews and open letters and addresses of that period discussed many of those questions informatively. He has traveled extensively both in Europe and in the countries of this continent, and is well versed in the needs, legislative and otherwise, of our foreign commerce.

In politics he is a Republican, though not a rockbound partisan. He was during the Wilson-Hughes campaign of 1916 active with the Hughes Alliance Reserve and Business Men's League. The only political office that he has held, however, is that of mayor of the city of Highland Park, Illinois, where he resides. He was that municipality's first chief executive officer under the commission form of government, having been elected in April, 1915, and for a four year term.

He is a member of the following named clubs and other organizations: The Sons of the American Revolution; the Knights Templars; the Chicago Athletic Association; the Old Elm Country Club; the Exmoor Country Club; the Press Club of Chicago, of which he is a life member, and the Mid-Day Club. In religious affiliations he is a Presbyterian, being a member and an officer of the church at Highland Park.

Mr. Hastings' conjugal life, like his business life, began at Braidwood. He was there married to Janette Rankin, September 16, 1880. No children have been born of the marriage, but they legally adopted Mrs. Hastings' nephew, now Rolland Thomas Rankin Hastings, who, with his family lives near his adopted parents in Highland Park.

Mr. Hastings' most conspicuous trait of character is affability. If he ever employs a hand of iron, it is always incased in a velvet glove. Unusually quick in reaching decisions, even upon the most vital questions, his manner is invariably courteous—one might say, almost gentle. His mind seems to be able to accomplish its task without generating undue heat, and he is a notable example of practical business efficiency totally devoid of brusqueness.

WILLIAM NELSON PELOUZE

President Pelouze Manufacturing Company

Born Washington, D. C., September 12, 1865; son of Gen. Louis H. Pelouze, U. S. A., and Ellen Doolittle Pelouze. Educated public schools of Washington, D. C. Graduated from the Michigan Military Academy in 1882. Married Helen Gale Thompson, daughter of the late Wm. Hale Thompson and sister of Wm. Hale Thompson, Mayor of Chicago.

The father of Mr. Pelouze, Gen. Louis H. Pelouze, was Assistant Adjutant General, U. S. A. He graduated from West Point in the famous class of 1853, with Sheridan, McPherson and Schofield. Gen. Pelouze died in Washington, D. C., in 1878 while in active service.

In September, 1882, he started his business career in Chicago with the Walter A. Wood Mowing and Reaping Machine Company. Became associated with the Tobey Furniture Company in 1886. He organized the Pelouze Scale and Manufacturing Company in 1894 and became its president. In 1908 he organized the Pelouze Electric Heater Company, and two years afterwards combined both companies as the Pelouze Manufacturing Company, of which he is the president and principal owner.

In 1882 he was appointed Captain and Adjutant of the 2nd Regiment of the Illinois National Guard. In 1884 he was elected Captain of Company H, same regiment, in which capacity he served during the riots in 1887 at the Union Stock Yards. He was later elected Major of the same regiment and in 1894 was appointed Assistant Adjutant General of the 1st Brigade I. N. G., which important position he held during the famous railroad strikes. Commissioned Lieutenant Colonel, 1st Regiment Illinois Reserves Militia, September 28, 1917.

He is a member of the Military Order of the Loyal Legion, Chicago Athletic Association, South Shore Club, Chicago Yacht Club and is Commodore of the Oconomowoc Yacht Club.

Residence, 12 West Delaware place. Office, 232 East Ohio street.

L. WOLFF MANUFACTURING COMPANY

One of the great industrial institutions of Chicago is that which is given consideration in this article, and the same had its inception more than sixty years ago, so that definite pioneer distinction attaches to the corporation whose name introduces this paragraph. In the manufacturing of plumbing goods this company ranks as one of the largest and most important in the world and its industrial and commercial activities centered in Chicago involve the operation of three extensive manufactories, besides which an adjunct institution is a large and modern pottery maintained at Trenton, New Jersey. The L. Wolff Manufacturing Company has contributed in large degree to the commercial preecedence of Chicago and the ponderous industrial enterprise, in the manufacturing of plumbing goods of every description, was founded in 1855. by the late Ludwig Wolff, who was a youth when he came from Germany to America and who was in the most significant sense the artificer of his own fortunes. Under his direction was built up one of the great industries of Chicago and incidental thereto he acquired a substantial fortune. His course in all the relations of life was dominated by lofty integrity and worthy ambition, and he was a strong, loyal and honored citizen who did much in the furtherance of the civic and material progress and upbuilding of the great western metropolis. His name and memory merit enduring honor in the city that figured as the stage of his earnest and prolifie endeavors as one of the world's true captains of industry.

The development of the enormous business controlled by the L. Wolff Manufacturing Company has been methodical, consecutive and normal, and apropos of its history is the splendid record of achievement on the part of the honored founder and others of his family who have contributed to the upbuilding of the remarkable industrial enterprise. Johann Wolff, a wagonmaker of Schwaan,

Mecklenburg-Schwerin, Germany, in company with his wife and seven children emigrated to America in the spring of 1854. On the old-time sailing vessel while en route the dread scourge of Asiatic cholera broke out, and from the disease four hundred of the passengers eventually died. Mrs. Wolff and two of her sons died at the quarantine station established on Staten Island, New York, having succumbed to the plague, and the bereaved father came with the remaining five children to Chicago, en route to their destination in St. Louis, Missouri. From the train the father, who likewise had been attacked by the cholera, was taken to a hospital, and there his death occurred four days later. Ludwig Wolff, then a youth of seventeen years, thus was left to care for the younger children, whom eventually he was enabled to place in good homes in which they were reared to maturity, his deep solicitude for them having continued during the intervening years and having been expressed in tangible assistance. A stranger in a strange land and unfamiliar with the English language, the sturdy and ambitious young immigrant bravely and earnestly faced the duties and responsibilities that devolved upon him, and though he experienced hardships and manifold vicissitudes, he kept his course true to the pole-star of home and faith, overcame obstacles and discouragements and pressed forward to the mark of large and worthy achievement.

LUDWIG WOLFF

Ludwig Wolff was born in the German village designated in the foregoing paragraph, and the date of his nativity was March 11, 1836. He was a son of Johann and Christina (Sievert) Wolff, and in his native place he attended the common schools until he was fourteen years of age, after which he served a four years' apprenticeship to the trade of coppersmith, in the meanwhile attending night schools. He was seventeen years old when he accompanied his parents on their immigration to the United States, and after the death of his father, as above noted, he attempted to find work at his trade in Chicago. Industry in this field of enterprise was much depressed at the time in the city and in an attempt to find a position elsewhere he had a precarious and distressing experience. He made his way to St. Louis and thence to New Orleans, worked his way back to St. Louis as a deck hand on a Mississippi river packet boat, paid his last half-dollar for ferry fare across the river to the Illinois side and for the ensuing four months he was employed in the arduous task of clearing land for a farmer in Macoupin county, this state, at a wage of two dollars a month. He then returned to Chicago, and upon his arrival in the city in which he was destined to become a successful and influential manufacturer the young man found his financial resources summed up in a single two-penny copper coin. Here Mr. Wolff found employment at his trade until 1855, when he formed a partnership with Terence Maguire and engaged in the general plumbing and coppersmith business, this modest enterprise having constituted the nucleus around which has been developed the enormous industrial enterprise now controlled by the L. Wolff Manufacturing Company. In the early '60s the firm began to specialize in the manufacturing of copper vessels for brewing and distilling purposes and also in the

manufacturing of bath tubs of the somewhat primitive type then in vogue. In 1866 Mr. Wolff purchased his partner's interest in the business and instituted the manufacturing of general lines of brass and copper supplies for plumbers, later adding marble supplies and foundry work. The business under his indefatigable application and well ordered policies continued to expand substantially and after he assumed sole control of the same he established his factory at the corner of Jefferson and Lake streets, where the present general office building of the company now stands. Here his original shop was a room fourteen by fifty feet in dimensions, and each year marked a distinct increase in the scope and importance of the enterprise. Additional ground and new buildings made needed provisions for the plant on the site of the original shop, and with the passing years greater facilities were demanded and promptly provided, until to-day the various plants of the company are institutions of magnitude and the best modern type. Three immense buildings, eight stories in height and with twelve acres of floor space, are now required to house the general offices, art, catalogue, designing and drafting rooms, brass shop, brass foundry, machine shop, watercloset department, marble shop, electric-plating department, lead-trap department, copper shop, slate and Duro-stone department, lavatory and earthenware department, wook-working department and bath-tub finishing department, these buildings being situated on West Lake street,—Nos. 93-117 and 110-114. On Fulton and Carroll streets the company's plant occupies sixteen acres of ground, and here twenty buildings are in use for the accommodation of the following named departments: Enameled-iron bathtub department; enameled-iron lavatory department; cast-iron water-closet department; cast-iron sink department; soil pipe and fittings and stop-box department; galvanized range, boiler and tank departments; foundry, enameling works, machine shop, galvanizing shop, tar houses, pattern shop and warehouses. At 11 North Dearborn street the company has a modern seven-story building which is utilized in its entirety for the show and sales rooms of the concern. The pottery plant, embracing ten acres of ground, is located at Trenton, New Jersey, but is now owned and operated by John W. Wolff, who was formerly president of the L. Wolff Manufacturing Company. This great corporation maintains fully equipped branch show rooms and warehouses in the cities of St. Louis, Omaha, Denver and Dallas, and sales agencies are established in the following named cities: Kansas City, Missouri; Minneapolis, Minnesota; Rochester, New York; Detroit, Michigan; Cleveland, Ohio; New York city; Washington, D. C.; London, England; and in Porto Rico. The factories of the company are recognized as being among the largest and best equipped institutions of the kind in the entire world, and the operating corporation is still in close control of representatives of the Wolff family. As a stockholder and executive of the company there has been given place to only one man not directly allied with or a member of the Wolff family. John C. Clifford, who entered the employ of Ludwig Wolff in 1867, as errand boy, was eventually admitted to partnership and finally became vice-president of the company. By their inventions both Mr. Wolff and Mr. Clifford contributed much to the development of the business. Mr. Clifford retired from active business a number of years since and was one of Chicago's millionaires at the time of his death, in June, 1917. Ludwig Wolff, the distinguished and honored founder of this enormous business, passed from the stage of his mortal endeavors, some years

ago, and a man who had wrought well, and merited success. The present officers of the L. Wolff Manufacturing Company are as here designated: Louis Wolff, president; Christian J. Wolff, vice-president; Gustave C. Schultz, treasurer; Alexander C. Barclay, comptroller; Frank W. Grundeis, secretary; and Orrin J. Buckley, assistant secretary.

During his long and vigorous career as one of the representative business men of Chicago Ludwig Wolff had few contemporaries who wielded more benignant influence in the civic and industrial activities of the city, and he did much to further the best interests of the West Side. A man of broad views and well fortified opinions, he was well fortified for effective service in public office, but on only one occasion did he yield to importunities and become a candidate for public office. This was when, without pledges or restrictions of any kind, he consented to run for the position of alderman from the old Ninth ward, and in the election he was defeated by only twenty votes, his successful opponent having been Bartholomew Quick. The company of which he was the founder now has more than ten million dollars of working capital and gives employment to fully four thousand persons,—facts that bear their own significance as touching the great scope of operations and the incidental influence upon the commercial and social well-being of Chicago.

LOUIS WOLFF

Louis Wolff, who has been president of the L. Wolff Manufacturing Company since 1917, was born in Chicago on the 21st of December, 1873, a son of Ludwig and Elizabeth (Geils) Wolff. He received the advantages of the public schools of Chicago and also those of the Harvard School in this city. He then entered Racine College, at Racine, Wisconsin, and after leaving this institution he pursued a higher course in the University of Chicago. In 1895 he became actively associated with the business of the L. Wolff Manufacturing Company, of which he became a director in 1904. In 1909 he assumed the office of treasurer of the company, and of this office he continued the incumbent until he succeeded his brother John F. as president of the corporation. He is also a member of the directorate of Monument Pottery Company, of Trenton, New Jersey.

Mr. Wolff was formerly in active affiliation with the Illinois National Guard, in which he served as second lieutenant in the First Cavalry, besides which he served as aide-de-camp on the staff of Governor Yates, with the rank of colonel, 1901-5. He is affiliated with the Psi Upsilon and Theta Nu Epsilon college fraternities and with William B. Warren Lodge, Ancient Free & Accepted Masons. Mr. Wolff holds membership in the Chicago Athletic, the Chicago Automobile, the Hamilton, the Glen View, and the South Shore Country Clubs and Chicago Golf Club.

CHRISTIAN J. WOLFF

Christian J. Wolff, vice-president of the L. Wolff Manufacturing Company, was born in Chicago, August 18, 1861, a son of Ludwig and Elizabeth (Geils)

Wolff. He was graduated from Racine College, Wisconsin, as a member of the class of 1880; in 1883 he was graduated in the Royal Polytechnic Institute at Hanover, Germany; in the following year he completed a course in the Mardock School of Chemistry, Chicago; and in the same year he became associated with the business of his father's company. In 1886 he assumed the position of chemist for the company, two years later he was made manager and since 1900 he has been vice-president of this important industrial corporation, besides which he is vice-president of the Monument Pottery Company, of Trenton, New Jersey.

Mr. Wolff has the following Masonic affiliations in the York Rite: William B. Warren Lodge, Ancient Free & Accepted Masons; Corinthian Chapter, Royal Arch Masons; and Apollo Commandery, Knights Templars. In Oriental Consistory of the Scottish Rite he has received the thirty-second degree, and he is affiliated also with Medinah Temple of the Mystic Shrine. He is a member of the Chicago Athletic Club, the Chicago Automobile Club, the Germania Maennerchor, and the South Shore Country Club.

JOHN F. WOLFF

John F. Wolff, eldest son of the late Ludwig Wolff, was born in Chicago on the 20th of November, 1858, and after profiting by the advantages of the public schools he continued his studies in Racine College, at Racine, Wisconsin, and in the Royal Polytechnic Institute at Hanover, Germany. In 1882 he was made vice-president of the L. Wolff Manufacturing Company, and later succeeded his honored father as president of this corporation. Of this position he continued the incumbent until he was succeeded by his brother Louis, and he is now virtually the sole owner of the Monument Pottery Company, of Trenton, New Jersey, of which corporation he is the president. He is a republican in politics, has served as a member of the Chicago board of education. Mr. Wolff has received the thirty-third or ultimate degree of the Ancient Accepted Scottish Rite of the Masonic fraternity, and has maintained active membership in such representative Chicago organizations as the Union League, Chicago Athletic, Chicago Yacht, and South Shore Country Clubs. He is an enthusiast in hunting and yachting and has found marked satisfaction in his affiliation with the Horicon Gun Club, of Wisconsin; the Cumberland Gun Club, of Indiana; and the Garfield Gun Club.

TROY LAUNDRY MACHINERY CO., LTD.

For over a generation Troy has been known as the greatest producer of shirts, collars and cuffs in the world. The different brands it manufactures, and their makers, have become almost household words and no rival has yet appeared to threaten the city's supremacy in this special field.

Troy's laundries long kept step with its factories, and only in more recent years has the phenomenal development of the power laundry everywhere robbed

it of its other title, "The world's greatest laundry city." For years the critical dresser was accustomed to send his linen hundreds of miles in order that it might receive the care and skilled attention for which Troy is famed, and today the city's name is a synonym for quality in laundry circles.

Although their machines were efficient, compared with the crude and imperfect appliances in general use at that early day, a number of Troy's progressive laundry-owners realized that they did not meet the standards they had set themselves in either quality or capacity or the needs of their rapidly growing business. They formed a co-partnership in 1879, for the manufacture of laundry machinery, under the name of the Troy Laundry Machinery Co., which became the present corporation three years later, in 1882.

The pioneer in the building of laundry machinery, the Troy Laundry Machinery Co., Ltd., has grown consistently along the lines of its establishment. Its founders were practical, successful launders, thoroughly acquainted with the needs and problems of the business. The machines they built were the outgrowth of their practical experience, and met the tests of actual service in their own plants, for which they were originally designed, before they were offered to the trade at large.

The company has remained loyal to these traditions in all stages of its growth and never more than within the last ten years, when its output has increased threefold. No Troy machine goes into a laundry until it has undergone thorough and trying tests for months. Ordinary efficiency does not content its builders. Because a machine does good work and is thoroughly satisfactory to its purchasers, has never been a reason why the quality of its work should not be improved upon if possible. It is a veritable revelation in painstaking thoroughness to follow any Troy machine through its various stages of construction. It is an even greater revelation to watch the later changes, prompted by the records kept of its results, that make it still more efficient. The founders of the company had small use for theory and their successors hold the same views.

One of the most interesting and instructive exhibits the company makes is the views of its original and present plants. The latter's general offices have more than twice the space of the entire earlier building. This picture of material growth is but an index of the increase in the number of machines manufactured and the improvements in their quality. This implies no disparagement of the product of the earlier days. The machines built in the first twenty years were, as now, the "Best Value" obtainable, and the same "Honest Construction" that has always been the company's watchword, was equally manifest.

At an early date it was found desirable to locate a factory in Chicago because of convenience of distribution and nearness to the different sources of supplies. More and more business was done in Chicago until the Troy factory was finally closed. Although the growth of the business previously had been gratifying, the developments of the last ten years have been notable. Buildings have been erected to care for the larger volume of business, only to prove inadequate and make necessary the building of additions as great as the original structure.

In 1906 the first part of the present building was completed. With its four acres of floor space, it was believed to be large enough to meet any increase of business that could reasonably be expected. Hardly was the company located in

its new quarters when it was discovered that more room was needed. Plans were again drawn for an addition, which doubled the plant's capacity. The final addition at the north end was completed in the fall of 1911. The factory now occupies the entire block bounded by South LaSalle street, West Twenty-third street, the Rock Island tracks and West Twenty-second street, and contains ten acres of floor space.

The factory has been regarded as a model in its equipment, organization and administration, and as such has been studied by trained observers of industrial conditions. That these qualities contribute to the character of the output is self-evident. No more gratifying tribute to this has been paid the company, than the following letter from one of the best known university critics of industrial problems, after a comparison with other plants in like lines:

"As I think of your plant in connection with others manufacturing similar lines of goods, I am impressed with the fact that the high quality claimed in your advertising is discoverable in your factory. The men appear to be high-class workmen and they seem to be working for quality instead of quantity. You could easily 'speed up' your men so that they would turn out twice their present output, but, of course, the quality would be reduced. I am rather surprised that you find it profitable to put so much painstaking work on the various articles that you are manufacturing. I should assume that your competitors could easily manufacture more cheaply than you, and that your reliance is placed on the fact that your customers want the best, even if it cannot be had so cheaply."

Despite its surprising growth in recent years, the laundry industry has yet to see its greatest development. The publicity campaign of the national organization directed the attention of the public as never before, to the merits and advantages of the power laundry, and laundry owners have since been more liberal advertisers. This has naturally led to a larger patronage and one covering a much wider range of items. More have patronized the commercial laundry; have sent larger weekly bundles; and many housewives have recognized its superiority over the washer-woman's unsanitary and unsatisfactory methods.

Another large field is the institutional one—hospitals, asylums and the like. The increasing care shown the unfortunate and mentally unsound, is not confined to the great state institutions. The homes set apart for them in smaller territorial divisions—the county asylum or poor-farm, are being supplied with modern laundry equipments, alike from charitable and economical motives.

Another field where the development has been even more pronounced, has been the modern hotel. Many of the magnificent city and resort hotels have splendid laundries. The modern hotel plan makes adequate provision for the laundry, and the architect is making more frequent calls on the laundry machinery builder for the practical help his experience has given him.

The pioneer and path-blazer, the Troy Laundry Machinery Co., Ltd., has continued to point out the way to more and better business. It has deemed it its duty to discover new avenues of profit for the laundry-owner and the means of entering them rather than to await the demands of the trade.

Troy plants and Troy machines are to be found today in practically every American town and city that has a power laundry and in every European country and continent. Through its publication, printed in English and Spanish, the House of Troy visits each month every plant, bringing the latest news of its

output and a message of real helpfulness. Its representatives are located in the commercial centers, giving to the trade that prompt, intelligent and comprehensive service to which its position is due.

The guiding spirit of the organization is its President and Treasurer, Mr. H. S. Wilcox. His connection with the company dates from 1882, when he began as a clerk in the general offices at Troy. Promotions to more responsible positions rapidly followed, until he was appointed in 1887, Manager and Secretary of the Troy house. From there he was called to Chicago as Treasurer and General Manager in 1901. He was elected to his present position in 1913. When he first came to Chicago the factory was located on Fifth avenue. The present building was erected under his administration, and the remarkable increase in business has been already commented on. Mr. Wilcox keeps in close touch with the various branches by personal visits.

Mr. Walter Bound, Vice-President, was for many years a banker and broker and member of the New York Stock Exchange, retiring in 1889, after twenty years of active service. He became a Director in 1889, and has been active since that date, bringing his long experience as a banker to the aid of the company, in the consideration of the numerous important and intricate questions that demand the attention of the Board. He became Vice-President in 1916 and his headquarters are at the New York branch.

Mr. Henry E. Geary, Secretary, began his connection with the company in 1881, and has served it ever since, except for a brief absence in 1889, due to illness. He was first at Troy, then seven years in Chicago, and has been at the New York office since 1889. He has been successively Assistant Manager, Assistant Secretary and Secretary. His duties cover those of his office and the multitude of details pertaining to the business of the New York office.

Mr. George B. Wilcox, Assistant Secretary and Assistant Treasurer, was connected with banking interests in Albany before his association with the company in 1904. Since that date he has been active in the management of the New York branch. His training has peculiarly fitted him to handle the many financial and intricate conditions which are met with daily in the business, and he is considered one of the most valuable and efficient members of the executive force.

FELT & TARRANT MFG. CO.

One of the noteworthy concerns of Chicago is that whose title heads this article. The sole product of this company is the Comptometer Adding and Calculating Machine, which enjoys the distinction of being the first successful key-driven adding and calculating machine produced and placed on the market. From the outset and on to the present day, this machine has held a foremost place in its field which it has steadily maintained at all times and against all competition. The Comptometer is now considered indispensable to the economical handling of the figure work of accounting in thousands of business offices and in all lines of trade throughout the civilized world.

Back of the Comptometer lies a history of invention and development, closely interwoven with which is a very human story of the inventor, Dorr E. Felt, and

his work. Could this story be told in detail, there would be found in it much of stirring interest of an uphill fight against heavy odds and ultimate achievement. But it is not within the province of this necessarily circumscribed article to enter into details concerning all the steps by which Mr. Felt attained his signal success. Neither is it practical to attempt an analysis of this wonderful piece of mechanism, nor possible to tell of all the mechanical difficulties he encountered and overcame in perfecting the device. But it may be said that the name of Dorr Eugene Felt will go down in history as that of the inventor of one of the most useful mechanisms ever given to the business world. Moreover, it has been given him to witness the definite success of his efforts, and his triumph must needs be as enduring as it is splendidly beneficent.

In this age of colossal enterprise and strenuous intellectual energy, the prominent and successful men are those whose ambitions and abilities lead them into



FELT & TARRANT MFG. CO.

new fields and large undertakings, and to assume the responsibility of leaders in thought and action. Success is methodical and consecutive and is the result of determined application of one's powers and talents to the work in hand. Even as Mr. Felt has given to the world a mechanism of the greatest value, so also has he contributed to the world's vocabulary the two significant words "Comptometer" and "Comptograph," both of which were coined by him and registered in most of the countries of the world as trademarks of the Felt & Tarrant Mfg. Co. In a recent edition of Webster's International Dictionary, published by G. & C. Merriam & Co. the words "Comptometer" and "Comptograph" are given place, together with an engraved picture of the Comptometer without mention that these words are trademarks. The publishers of the dictionary have promised to make good the omission of the information, and a similar explanation is to be given by the publishers of other lexicographical works. To Mr. Felt belongs not only the honors of priority of invention with respect to the Comptometer—the first successful, key-driven adding and calculating machine—but that also of having invented and placed upon the market the first practical adding and listing machine, the Comptograph.

In 1887 he organized the firm of Felt & Tarrant to manufacture his inventions and in the following year he effected the incorporation of the Felt & Tarrant Mfg. Co. of which he has since continued to be the president.

The large modern plant owned and occupied by the Felt & Tarrant Mfg. Co. for the manufacture of the Comptometer, is situated at 1713-1735 North Paulina street and constitutes one of the important contributions to the great manufacturing institutions of the western metropolis. The original building of this plant was one of the first of reinforced steel and concrete construction to be erected on the Northwest Side of Chicago and is as nearly fireproof as a building can be made. To this building, 250 feet by 35 feet, six stories high, there has been added a three-story building of similar construction, 170 feet by 35 feet. When the manufacture of the Comptograph was discontinued, the Comptometer plant was further enlarged by the purchase of the adjacent Comptograph building, 125 feet by 25 feet, six stories high, also of reinforced steel and concrete construction. The acquisition of this structure brings a total floor space of the Comptometer plant to 130,350 square feet.

Mr. Felt has been granted 46 patents in the United States and 25 in foreign countries, which, with few exceptions relate to calculating machines and improvements thereof; the conspicuous exceptions being a patent on an improved lathe chuck, one on a coupon cutter, two on gas meters, and one on a camera-diaphragm comptroller.

Safely guarded in the company's vaults reposes a plain wooden box, containing some rudely finished parts, held together by wire staples and rubber bands, the design and purpose of which would not be clear to the observer without explanation. This box, with its crude mechanism, represents the first concrete expression of the idea which later expanded into the finished Comptometer as we know it to-day and the great industry of which it is the corner stone.

In this first model was realized the first step toward a successful key-adding machine. It was along the lines of this model that the first nine machines were built, one of which went to the United States Treasury in 1886 and after twenty-three years of service came back to the factory a battle scarred veteran—retired from service, but not incapacitated.

The Comptometer began its career some thirty-one years ago in the loft of a building on Illinois street. From the humble quarters of that day to the present plant, occupied exclusively in its manufacture, is a far cry in progress and development. A recital of how the Comptometer grew would be merely a repetition of the never-ending story of achievement—of successful accomplishment in the face of obstacles such as strew the way of every man who does anything worth while.

Mr. Felt not only invented the Comptometer and built it with his own hands, but the first machines marketed were personally sold by him. It took Mr. Felt just two years, eleven months, and six days to sell the first hundred machines. It was plain then, as it is now, that the Comptometer offered what the world had long sought—emancipation of the human brain from the menial treadmill task of grinding out and assembling figures.

But, as is the case with epoch-making inventions generally, the Comptometer anticipated the progress of its day by a decade or more. Bookkeepers and accountants looked upon it with suspicion. It was an innovation that threatened to over-

turn methods handed down from generation to generation and held with almost religious veneration by the great body of the craft. Instead of welcoming the Comptometer as a means of relief from the unpleasant drudgery of mental calculation, bookkeepers actually opposed its introduction, believing it to be detrimental to their interests. Thus, because it was a pioneer in the field, the Comptometer had to overcome the obstacles that always and everywhere beset the path of the pioneer. Yet in spite of the opposition of prejudice and misguided antagonism, the Comptometer made headway—slowly at first, but gradually growing and expanding until it has been given world-wide recognition as a most powerful and effective factor in the efficient handling of the arithmetic of business.

The personnel of the executive corps of the Felt & Tarrant Mfg. Co. in 1917 is made up as follows: Dorr E. Felt, president; Wm. F. Babcock, secretary and treasurer; John C. Nevins, general sales manager; G. S. Bollensen, foreign manager. The capital stock of the company is \$2,500,000.

DORR E. FELT

Secure in his vantage ground as one of the representative inventors and captains of industry in America, Dorr Eugene Felt is a loyal Chicagoan concerning whom somewhat more specific mention should be made in this publication. He was born at Beloit, Wis., March 18, 1862, the eldest of the twelve children born to Eugene Kincaid Felt and Elizabeth (Morris) Felt. He is a scion of the seventh generation in direct descent from George Felt (1601-93) who came from England to Massachusetts about 1628. Of the descent through successive generations it is not necessary to speak in this limited article, but it should be noted that one ancestor of Mr. Felt of this review was Joseph Felt (1757-1842) who served seven years as a patriot soldier in the war of the Revolution. Asa G. Felt, grandfather of Dorr E., removed from Webster, New York, to Newark, Wis., in 1846, and was one of the active and influential pioneers who did much to further the development of the Badger state. Eugene K. Felt, born in 1838, was a boy at the time of his parents' removal to Wisconsin, and his active career was principally one of close and effective association with agricultural and lumbering industry. He held various public offices, including that of member of the Wisconsin legislature, and in 1883 he removed to Kansas, finally settling in Seattle, Wash., where he passed the remainder of his life. His wife, who survives him, still lives in that city.

Dorr E. Felt gained his early education in the public schools of his native county, and since he was sixteen years of age he has relied entirely upon his own resources. At the age of twenty, he was foreman in a rolling mill that had a daily output valued at two thousand dollars. Through employment in various shops he learned the machinist's trade in all of its branches, became a proficient mechanical draftsman and developed his splendid inventive genius. Apropos of his advancement in the field of invention and manufacturing, it is not incumbent to enter into further details, but the following extracts are worthy of perpetuation as touching the two great mechanisms with which his name is



J. E. Felt,

most closely identified, the quotations being taken from an article appearing in the 1916 edition of the *Cyclopedia of American Biography*:

"Being himself a competent constructor, as well as an experienced designer, Mr. Felt is able to superintend the experimental work of every new model of his device from the very start. He has been accustomed to construct all models with his own hands, and continues experimenting and rebuilding until the desired lightness of key touch, complete accuracy and sufficient durability of all parts of the intricate mechanism are perfectly attained. Nor have his labors ended with the production of an efficient machine. A far greater task has been that involved in the devising of methods for performing all kinds of arithmetical operations by its help. Starting with the simple and fundamental processes, he has been obliged to devise methods for all the various classes of computations required in commercial and engineering work. Some of these appear formidable at first sight, but closer study reveals the fact that several valuable new properties of numbers and combinations of quantities have been developed by the use of this machine.

"The Comptometer has repeatedly won the highest awards at trade and international expositions, and several medals have been issued to the inventor in recognition of his achievement in mechanical science."

Mr. Felt, with characteristic nerve, has been a close student of governmental and economic problems, live topics and great issues. By his own efforts he has become proficient in geology, biblical history and political and economic science. At the age of forty-eight years he took up the study of French, with the result that he is able to converse in that language with marked facility. His opinions are sought by other men of large business affairs. Notable occasions of public protest were his letters to President Wilson on the provisions of the Clayton bill, touching upon patents and interlocking directorates—provisions which, as he recognized, might embarrass some of the great corporations and which certainly would work considerable hardship and uncertainty on other classes of business men who have no intention of conducting "repressive monopolies" or of stifling just competition. He also expressed himself strongly at a meeting of the Illinois Manufacturers' Association, of which he is vice-president, when he made a vigorous protest, on August 7, 1914, against the proposal to let foreign merchant ships sail under the American flag.

Mr. Felt has traveled widely over the world, not confining his excursions to the beaten paths nor his observations to "guide-book" points of interest. Illustrative of the range of his investigations are such instances as how a trip to Hawaii and the crater Kilanea, Hawaiian Islands, and later to Alaska quickened his interest in geology, a subject to which he had already given considerable study, and led him to put in all of his spare time for two or more years to studying geology; how a trip up the Nile, through Palestine and Syria and ending at Constantinople, at the time the Sultan was deposed, got him interested in biblical history, so that subject occupied all his leisure time for about two years; how he spent an appreciable amount of time in visiting out-of-the-way places, from the Yukon in Alaska to the Mexican border; how he has given liberally of his time in service on committees and other organizations for the promotion of higher standards of education, scientific study and national legislation for the saner co-operation of capital

and labor. He is keenly interested in the development of such scientific sports as motoring and aviation.

Mr. Felt holds membership in the Chicago Athletic Association and the Union League and City Clubs of Chicago, as well as the Wisconsin Club of this city, and he takes deep satisfaction in his affiliation with the Society of the Sons of the American Revolution and other organizations of representative order—social, business, and scientific.

On the 15th of January, 1891, was solemnized the marriage of Mr. Felt to Miss Agnes McNulty, daughter of George W. McNulty of Bellevue, Iowa, and the children of this union are four daughters, Virginia, Elizabeth, Constance and Dorothea.

THE PULLMAN COMPANY

In the late fifties of the past century, in a small shed on the site of the present Union Station, Chicago, George Mortimer Pullman, the founder of The Pullman Company, by the remodeling of two small passenger coaches of the Chicago & Alton Railroad laid the foundation for the later great car manufacturing plant which to-day constitutes the creative element in The Pullman Company.

In the years which immediately followed, the success of Mr. Pullman's venture was assured, and the rapid growth in the operation of sleeping cars warranted, in 1867, the incorporation of "Pullman's Palace Car Company." It was not necessary, however, in the first years for the company to maintain its own manufacturing establishment, but as the popularity of the Pullman car increased and the appreciation of Pullman service spread from state to state came the logical necessity of manufacturing facilities to produce cars in the required volume and also to build them in strict accordance with the unvarying high standard set by the founder of the company.

The first Pullman Shops were located at Detroit in 1871 (abandoned 1893) and other shops were later established at Elmira, N. Y., in 1872 (abandoned 1886), Mantua, Penna., in 1880 (abandoned 1884), St. Louis, Missouri, in 1881 and Wilmington, Delaware, in 1886.

But early in the history of Pullman's Palace Car Company was felt the need of a single car building plant centrally located to serve to the best advantage the increasing demand of the entire country. In 1877 approximately 460 cars were operated by the company over various railroads. The struggles and uncertainties of the earlier days were past; the requirements of the future demanded preparation.

The capacity of the Detroit Shops had for several years been strained to the uttermost, and, furthermore, their location was too remote from the administrative offices of the company to admit of the most effective supervision and management. Moreover, it was Mr. Pullman's desire to manufacture both freight and passenger cars, an operation which required a much larger plant and one capable of almost infinite expansion. The site finally chosen was situated on the open prairie near Lake Calumet, about fourteen miles south of Chicago. The ground was swampy and it was necessary to raise and fill it to make it habitable, but of such was the land upon which Chicago itself was built, and Mr. Pullman

had done much good work and acquired much valuable experience in the part which he had taken in raising the level of the city some years previous. By the year 1880 the buildings of the new plant were taking visible shape.

Many of the buildings of the great manufacturing plant planned and erected then by Mr. Pullman are still standing with such changes and improvements as have been required by the development of the industry, including the three original tiers of buildings north of 111th street and east of the Illinois Central Railroad, separated by transfer tables and dominated by the water tower. This tower, a landmark distinguishing the plant by its unique appearance, is an octagonal structure 195 feet high, containing a 500,000 gallon water tank which furnishes fire protection for the works at high pressure.

The engineering wonder of the Philadelphia Centennial Exposition of 1876 was the Corliss stationary engine, a huge mechanism of 2500 horsepower by which all the machinery of the exposition was moved, and this Mr. Pullman bought and installed in his new plant. It remained there in its building adjoining the water tower to furnish power to the shops and was a never failing source of interest to all who visited them until 1910, when it was removed to make way for the present modern power producing machinery. This power plant occupies a building by itself, and consists of two steam turbo-electric generators, each of 1500 K. W. capacity, and a third, rated at 2500 K. W. and operating on either exhaust, high pressure steam or both. Here also are four air compressors capable of furnishing 1,080,000 feet of air per hour. These are the successors of the old Corliss engine that did the work faithfully and well for thirty years.

In addition to the water tower and the Corliss engine house, the original plant consisted of a main office building, four erecting shops, a wood machine shop, engine room and boiler houses, iron machine shop, blacksmith shop, oil houses, hammer shop, dry lumber house, lumber yard office, log saw mill, repair shop, upholstery shop and several minor buildings. Another group of buildings constituted the plant for building freight cars and included lumber mills, engine room, boiler house, erecting shops, dry kiln and blower house, truck shop and bolt storeroom, iron warehouse and paint stock room. Still another group comprised the foundry department, including main foundry building, blacksmith and machine shops, brass finishing shops, pattern shop and storage house, brass foundry, office, boiler and engine house. On the south side of 111th street close to the shore line of Lake Calumet was located a group known as Calumet Shops, originally designed for the building of street cars and so used until 1901, since which time it has been used for repairing Pullman cars. This consisted of lumber mills, erecting shops, engine and boiler houses, iron machine shop, blacksmith shop, dry kilns and sheds for lumber and iron. The combined plants now cover an area of approximately 450 acres, on which are located one hundred buildings, served by over 100 miles of track within the shop enclosure.

To secure switch connection with adjacent trunk lines a steam railroad was built which now, under the name of the Pullman Railroad, serves not only the Car Works but also the dozen or more industries that have since located in the Pullman manufacturing district.

In course of time an electric street railway, designed to give better transportation facilities to the town, was installed from 115th street and Cottage Grove

avenue (Kensington) to 95th street and Stony Island avenue, where it connected with the South Chicago Street Railway but originally the remoteness of the site from the city indicated that homes would have to be provided for the army of workmen which the new industry would require, and Mr. Pullman, determined to include as a part of his plans a model town complete in every detail. With the assistance of the late S. S. Beman, an eminent Chicago architect, Mr. Pullman devoted his personal energies to the working out of this monumental task. Here again he was a pioneer. Industrial cities had existed before the founding of the town of Pullman, but never before had a solution of the problems involved been attempted on so large a scale and with such generous regard for the employes' welfare. That the plan of the town represented a distinct advance over the ideals and conditions of its times is shown by the words of Mr. Graham R. Taylor, "The development of Pullman shows the foresight of a pioneer mind, Mr. Pullman early recognized the advantages of the removal of industry to the suburbs secured much land while it was cheap, and realized the economics of wholesale town and house building. He provided recreation and tenements far in advance of the time, setting standards which Chicago failed to follow until later years, when hard struggles secured tenement laws and the movement for playground and recreation centers became successful."

To accomplish his project Mr. Pullman had secured the necessary land east of and accessible to the Illinois Central Railroad and south of 111th street which became the main boulevard, here were built houses, flat buildings, a hotel and arcade, school, church and market. Every house had its garden patch, and a park, a lake, trees and well kept lawns gave an attractive appearance to the town. A contemporary writer refers admiringly to "its shaded avenues, its glimpses of bright water, its harmonious groupings of tasteful homes and churches and public buildings, the whole colored here and there with the green of lawns and the clustered banks of flowers," and looks forward to the day not far distant when it will be "a bright and radiant little island in the midst of the great tumultuous sea of Chicago's population."

The carpenter shop and brick yard which formed a part of the company's property did a good commercial business for a number of years, having customers in Chicago and elsewhere. At one time the yearly output of the carpenter shop was \$181,000.00 and that of the brick yards was \$122,000.00, while the sale of gas from the gas works amounted in one year to \$30,000.00. A sewage farm of 154 acres was designed to make use of effluvia from the town for the enrichment of the soil and the benefits of this treatment still remain. A laundry for the convenience of residents of the town was a later addition.

The first family moved to Pullman January 1, 1881. By midsummer of that year, 400 people were residing there. In February, 1882, the population numbered 2084; in September, 1884, it had risen over eight thousand inhabitants.

In 1883-4 the car works employed 2446 men and its output was \$4,700,000.00. In 1889-90 the number of employes was 3586 and the output \$6,624,000.00. In 1899-1900 the employes numbered 5877 and the output amounted to \$14,025,000.00. In 1909-10, 9,016 employes were engaged in producing an output valued at \$18,000,000.00. The maximum up to date was reached in 1913-1914 when 10,044 people were employed and \$29,000,000.00 worth of work was turned out. Immediately thereafter the operations of the works suffered a contraction due

to the unsettled condition of business growing out of the European War and the difficulty of getting construction materials. In 1915-16 the number of employes had fallen to 6658 and the output to \$19,938,000.00, which, it will be noted, was equivalent to 1909-10 as to output, though we have to go back to 1899-1900 to find a similar number of employes. The reason for this discrepancy is found in the change to steel construction.

The first reference to steel cars appears on the books of the company in 1874 and later references to other cars of steel occur. In March, 1907, the first modern steel car, the "Jamestown," was built at a cost of \$30,000.00, to serve as The Pullman Company's exhibit at the Jamestown Exposition at Norfolk, Virginia. This type of construction, owing to the high degree of safety and security that it offered to the traveler, grew rapidly in public favor. The Pullman Company foreseeing the future necessity of steel cars in 1908-1909 remodeled its woodworking buildings, added new shops and modern steel working machinery to its equipment, and in April, 1910, The Pullman Company adopted the policy of building steel sleeping cars exclusively. This change was accompanied by an increased demand by railroads for steel freight and passenger cars and to meet this demand in 1909-1910 a new steel freight car plant, costing \$2,500,000.00, two new steel passenger car shops, a new brass foundry and brass finishing department and a new power plant, the combined cost of which was \$1,130,000.00 were added to the works. These improvements have produced the largest, most efficient single car-building plant in the world and has enabled The Pullman Company to maintain its reputation as the world's foremost car builder.

To-day while the old water tower still points high above the city of roofs, the lake that once spread in front of the Administration Building has given place to streets and railroad tracks. The main buildings of the plant are now the water tower, office building, erecting shop, repair shop, freight shops, store-rooms, steel passenger car shops, steel freight car plant, brass foundry and brass finishing department, electric power plant, boiler house, hammer shop, machine shop, rolling mill, wood working building upholstery shop, paint shop, dry kiln, glass and electrical department, together with numerous minor structures. The north end of the original area is now occupied by three new structures built in 1917 that represent the best practice in efficient shop planning. To the east and closest to Lake Calumet is the new hammer shop which, when completed, will house all the hammers, furnaces and forges used in the countless steel and iron welding and shaping processes involved in the making of small parts, this building will have a floor space of 120,000 square feet. Next to it on the west stands the machine shop, and beyond that is the site of the new truck shop. Across the front of these great buildings runs an overhead track 1800 feet long supporting two cranes capable of carrying a load of fifteen tons each.

The machine shop is a marvel of completeness. This building is 311 feet long by 242 feet wide and stands fifty-one feet to its saw tooth roof of many lights. Through the center and down each side run galleries with electric monorails above and below each balcony. The two open spaces between the three galleries are occupied by ten ton cranes for heavy handling while along the edge of the galleries, both upstairs and down, are ranged machines of every sort, and description, all served by overhead cranes or monorails.

The Brass Foundry and Brass Finishing Department contains many inter-

esting features. On the third floor are located the foundries for brass casting, and by gravity these castings when cleaned and ground, pass down to the second floor where the machine room is situated. Here parts and small tools both brass and steel are machined in quantity. The automatic lathes in this room are of particular interest as these machines will take a rod of brass or steel and turn it into finished articles with practically no attention from their operators. The ground floor is devoted to bench work where the finished articles are assembled and here is a room filled with skilled brass workers busy with hand tools after the manner of a machine shop of earlier days. At one side is what has been called "the most perfect storeroom in the world." Here are stock bins and drawers of varying sizes, all based on a standard size or unit, containing a numberless array of brass parts small and large, so carefully arranged that any confusion of stock lots of different cost prices, the bane of manufacturing cost accountants everywhere, is impossible.

In the cabinet shop can be found a reminder wood-working establishment of the past. This shop, due to the change to cars of construction, occupies a position of relatively small importance, but it still requires workmen of the highest grade of skill and intelligence. The requirements for wood finish are now small, being mostly for repair work or on other than Pullman cars.

Adjoining is the steel cabinet shop where steel interior finish is manufactured. Here berth fronts, partitions and other parts are sent for the finishing touches, and it is here that the skilled graining of the berth fronts in imitation of mahogany is performed.

In the erecting shops, through which railroad tracks extend the entire length of the building, the earliest stages of the construction of the modern steel car are performed. The process has been described in "The Story of the Pullman Car" (page 125).

"At one side of one of the main aisles a half dozen steel girders, like keels for giant ships, lie on the floor. These are the mighty box girders, eighty-one feet in length and weighing over nine tons each, which will form the backbone of future Pullmans. To each of these girders, or sills, are riveted plates, angles and steel castings which extend the full length of the car and platforms, as well as floor beams, cross bearers, bolsters, and end sills of pressed steel. On this foundation the side sills are riveted, steel beams that run the entire length of the car. . . .

"On this underframe the superstructure or car frame is erected to form the body of the car. This frame is composed of pressed steel posts and plates forming for each side a complete girder which would by itself alone carry the entire weight of the loaded car.

"The roof deck is separately assembled, and as soon as the superstructure of the car is ready it is swung up by a crane and dropped into place. Like the rest of the car, the roof is of steel, braced and riveted to defy the greatest possible strains. The ends and vestibules are now built on, piece by piece, until the skeleton of the car is complete. . . .

"The trucks which carry this tremendous burden of steel are marvels of strength and efficiency. Each of the two trucks has six steel wheels weighing nine hundred pounds a piece. Added to this is the weight of the three six hundred pound axles, the two steel casting which form the framework for the trucks, to-

gether with the bolsters, springs, equalizers and brake equipment—a total weight of 42,000 pounds for the trucks alone, contributed to the total weight of the car.

“The car is now subjected to a thorough sand-blasting, a process that removes every particle of scale, grease or dirt and leaves the steel in perfect condition to receive the first coat of paint and the insulation. Composed of a combination of cement, hair and asbestos, this insulating material is placed over every cubic inch of space between the inner and outer shells of the roof and sides, forming a perfect non-conductor to protect the passengers against the biting cold of winter or the heat of summer sunshine. A similar cement preparation is next laid on the floor, combining the quality of a non-conductor of heat and cold with sanitary qualities invaluable as an aid in maintaining the cars in a strictly sanitary condition.

“At this point in the construction the car is turned over to the steamfitters, plumbers and electricians, who perform their work with the skill and dispatch bred of a long familiarity with the particular requirements of car construction. To see the Pullman car at this stage is to see a network of steampipes and electric conduit lacing in and out between the gaunt steel frame of the car, and everywhere the white, plaster-like insulation packed into every cavity. As soon as these gangs of workmen have finished, other workers fit into place the interior panel plates, partitions, lockers and seat frames and the car instantly assumes a new and almost complete aspect. Meanwhile the painters have completed their work on the exterior of the car and begun the finer finish of the interior. Here coat upon coat is laid, and after each there is laborous rubbing to give the required finish. The graining, by which various woods are so faithfully imitated, is then applied, and last the varnishing.

“The car is now completed with the exception of the fittings. A gang of men hang curtains in the doors and windows; the upholsterers contribute the carpets, cushions, mattresses and blankets; the various little fixtures are added and the car is finished.

“Perhaps as we stand looking at it, the switch engine backs up and it is carried away with a string of its fellows to bear the name ‘Pullman’ to remote parts of the continent.”

As previously mentioned in 1910 when the need for increased capacity for freight construction became evident, the company secured 133 acres on the north side of 103rd street, immediately north of the passenger site, and erected buildings containing modern manufacturing facilities. These buildings consist of a main machining, construction and erecting shop, 360 feet wide and 1200 feet long, divided into four bays, all served with over-head cranes and equipped with machinery necessary for this character of work, and other buildings to meet the manufacturing requirements.

After the material has been machined and certain small sub-assemblies handled, the material is assembled beside a track in its proper relation to the ultimate construction of the car. At one end of the track the trucks are brought in and upon them is assembled the body of the car. First, the underframe is fitted and bolted into place, and then, instead of the men moving or additional materials being brought to the car, the partially fabricated car is moved on its own trucks to the next position where the members are riveted. The car is then moved to each successive position where the sides, ends and roof are added, and in an

incredibly short time it emerges from the end of the shop, a completed car on its own trucks. This progressive assembly and fabrication is known as the "track system," and has reached its highest development in the Pullman plant.

In the summer of 1916 when handling a large number of one type of cars a record was made in turning out from a single track a completed 100,000 pound capacity all-steel hopper car every seventeen minutes during the day.

In addition to main shops, there is a large power house fully equipped, and housing the blacksmith, millwright, toolroom and electrical departments. Another building housing the Wheel, Axle and Truck Shop is an example of complete mechanical installation for the handling and machining of all the heavy parts which enter into the trucks. This building contains a collection of mechanical appliances that has no equal in the world for a similar class of work.

Outside the buildings are large overhead cranes serving all the buildings, and a lumber yard with dry sheds, which together with ample track facilities, make this an ideal freight shop."

Although the car works at Pullman is the principal mechanical plant of the company it is not the only one. Of the present efficient repair plants, the shops at St. Louis are the oldest. They were built in January, 1881, destroyed by fire in 1891 and rebuilt in 1899. They employ 400 people and turn out repair work of the value of \$600,000.00 annually. Growth of business, however, has rendered the present location inadequate and new shops are now being constructed, upon completion of which the present plant will be closed. The new shops will be within the city limits, and represent the highest development of Repair Shop facilities that could be planned by combination of best engineering talent with the broad experience of The Pullman Company in the repair of its cars. The buildings will all be of reinforced concrete, fireproof, saw-tooth roof, and so arranged that each repair department will be located on the ground floor, conveniently located to furnish its product to the main repair shop, all of which will be under one roof. The power plant and storeroom will represent the latest and best practices. In addition, large storage yard for cars will be within the shop fence, which encloses an area of forty acres.

The shops at Wilmington, Delaware, are located in a busy manufacturing district. Opened in September, 1886, they were completely rebuilt during the years 1901 to 1903. They now employ over 800 people and their annual output equals \$1,500,000.00.

The Calumet Shops, located south of the car-building plant at Pullman, Illinois, which have already been referred to, cover an area of twenty-two acres, employ 1,000 people and turn out \$2,000,000.00 worth of repair work annually.

An extensive repair plant at Buffalo, New York, covering thirty-five and seven-tenths acres, was acquired with the assets of the Wagner Palace Car Company, purchased in December, 1899. This shop employs 800 people and has an annual output of \$2,000,000.00. Large additions are now being built which will increase the capacity of this plant fifty per cent.

A smaller shop located on leased ground at Ludlow, Kentucky, near Cincinnati, was opened November 1, 1909, and its 150 employes produce \$300,000.00 of repair work each year.

A site of twenty-one acres was acquired at Richmond, California, in 1911 and \$575,000.00 was invested in a plant there. This plant replaced the one at

Denver which was closed soon after its completion. It has given work to 500 people and produced \$750,000.00 in repairs per annum.

Mr. Pullman was succeeded as president of the company by the Hon. Robert T. Lincoln who held the office from the death of his predecessor in 1897 to 1911, when he was succeeded by Mr. John S. Runnells. In 1900 when the assets of the Wagner Palace Car Company were acquired the name of the company was changed from Pullman's Palace Car Company to The Pullman Company. During the fifty years of its life the company has grown and its operations have expanded from a few experimental lines to a great system embracing the entire continent and operating 7500 cars on more than 225,000 miles of railroad. The effect of skilled executive direction upon this success cannot be overestimated. In 1913 Mr. Runnells became interested in new methods of shop management which were being widely discussed at that time, to secure increased efficiency in operation and to accelerate output. The applicability of these various methods to Pullman Car Works was considered from every angle and as a result a system was evolved and put into practice which has largely contributed to the efficiency of the plant. From its favorable position among the manufacturing industries of Chicago, The Pullman Company looks back on the record of an honorable past and confidently forward to the sustained success which it justly merits in the future.

THE WIZARD PRODUCTS COMPANY

The fortuitous commercial influence of Chicago has ever been marked by cumulative tendencies and many industrial enterprises that have had inception in less important communities have been signally prospered after coming under the splendid canopy of Chicago's advantages and progressiveness. This has been significantly true in connection with the development of the large and important business of the Wizard Products Company, the headquarters of which are established at 1444-1454 West Thirty-seventh street. The company was organized in 1906, with a capital stock of four thousand dollars, and the success that has attended the development of the enterprise is clearly shown forth in the fact that the average annual transactions of the company have now reached an aggregate of about one million dollars. The products of the concern are now sold in all parts of the United States and a substantial export business been significantly true in connection with the development of the large and likewise has been developed. The officers of the company are as here noted: G. E. Eis, president; Fernand Kohl, vice-president; William Severns, treasurer; and Otis W. Severns, secretary.

The business was initiated in a very modest way, at Centralia, Illinois, from which place removal was made to Chicago in 1907. The headquarters of the concern were maintained at the corner of Kinzie and Cass streets until 1910, when removal was made to the present location, in the great central manufacturing district of the city, where the company utilizes the entire accommodations afforded by a substantial building of three stories and basement and with direct connection with the Chicago Junction Railway, so that its shipping facilities are unexcelled. From the modest capital that provided the original financial

reinforcement, increases have been made from time to time, to meet the constantly expanding demands of the business, and the capital of the corporation is now six hundred and fifty thousand dollars, there having been no change in the personnel of the original corps of executive officers. The company has well equipped factories at Wichita, Kansas, and Atlanta, Ga., and in the same are manufactured the fine lines of household specialties that have given to the institution its pervasive reputation and substantial trade. Among the principal output manufactured by and controlled by the company may be noted the Wizard Furniture polish, the Wizard Triangle Mop, the latter of which was originated and patented by the company, and superior types of dusters, dish mops and various polishing and cleaning preparations that have special value in connection with the domestic economies of the home. The company has developed a broad and well regulated system of national advertising in approved and popular magazines and other periodicals, and the value of this judicious policy has been demonstrated in the upbuilding of the large and prosperous business.

The business of the Wizard Products Company was organized by William and Otis W. Severns, both of whom were born and reared in Centralia, Illinois, where they received the advantages of the public schools, as did they later those of Chicago educational institutions. At Centralia the brothers finally became the owners of the general merchandise establishment conducted under the title of the J. C. Severns Company, and their progressiveness was further shown in the successful conducting also of a book store and printing establishment in their native town. Possessed of the vital energy and ambition that will not be restrained, the brothers looked constantly to the achieving of larger things, and thus it was that they showed their confidence in the future by founding in a modest way the substantial Chicago industry with which they are now identified. Otis W. Severns is a member of the Central Manufacturing District Club of Chicago, and through this and other alliances shows his deep interest in all that touches the welfare and progress of the western metropolis. In a social way he also holds membership in such representative organizations as the South Shore Country Club, and the Midlothian Club, besides which is a member of the Missouri Athletic Club in the city of St. Louis. He has the active management and supervision of the business of the Wizard Products Company and is known as one of the vital and progressive business men of the younger generation in Chicago.

William Severns, elder of the brothers, is now giving the major part of his time and attention to the reclamation and development of three thousand acres of land in the immediate vicinity of Quincy, Adams county, Illinois, and this is authoritatively said to be one of the finest specimens of effective reclamation work ever accomplished in the middle west.

THE BOYNTON WOOL SCOURING COMPANY

In the magnitude and scope of its operations this corporation may consistently be said to be one of the largest and most important of its kind in the entire west,

its functions being not only in the scouring and preparing of wool for the use of manufacturers but also the handling of raw material on an extensive scale. The company's modern and well equipped plant is situated at the corner of Iron and 36th streets, in the now celebrated Central Manufacturing District of Chicago.

The Boynton Wool Scouring Company was organized in 1895, and from the time of its incorporation the personnel of its executive corps has been as here noted: George W. Boynton, president; John C. Bryan, vice-president; Charles Bohman, secretary; and Ambrose Rose, Jr., treasurer. The original scouring establishment of the company was located on Goose Island. There operations were continued until 1910, when the company erected and took possession of its present modern building, at 3601-11 Iron street, the structure being of the best type of mill construction and is three stories in height, with ample basement under the rear portion. Here is afforded an aggregate floor space of eighty thousand square feet, the building is equipped with fire protection through an automatic-sprinkler system, and the plant has direct trackage which affords the best of railway facilities. In the establishment employment is given to an average force of about forty persons, including eight wool-sorters who are expert judges of qualities and relative values in the raw material. The company not only controls a large volume of business as wool scourers and carbonizers but also as general dealers in wool. In the plant are the best of facilities for the preparing of the wool for cloth manufacturers, and recourse to the establishment is taken by woolen manufacturers. Buyers for the company represent the same in all of the leading wool-growing districts, and in this establishment is handled wool from Australia, South America, China, and the Cape of Good Hope district of South Africa, as well as in other wool-producing sections in other parts of the world. In the latter part of the year 1916, the company handled at its establishment four carloads of wool that had been grown in China, shipped to Liverpool, England, thence to Boston, Massachusetts, and finally to Chicago, where it was scoured by the Boynton Wool Scouring Company, finally manufactured into hosiery and then shipped to France. The company has a record for the scouring of an average of four million pounds of wool annually and the handling of approximately an equal amount of the raw wool as buyers and dealers.

DRYDEN RUBBER COMPANY

In the development of the substantial business of the Dryden Rubber Company there has been no element of sluggish receptiveness but rather that of vital energy and productiveness, with the result that the concern has assumed an important place in its domain of industrial enterprise and is properly given consideration in this publication. In 1901 the enterprise had a modest inception as a jobbing business, with headquarters at 447 South Wabash avenue, and the present large and well equipped plant of the company is eligibly located at 1014 South Kildare avenue, to which quarters removal was made in 1910. At the time of its organization the company was incorporated with a capital stock of

ten thousand dollars and with the following named officers: George B. Dryden, president; Charles P. Dryden, vice-president; and Walter P. Barton, secretary. The original corporate title of the Dryden Hoof Company was retained until 1910, when, with the definite expansion of the facilities and functions of the institution, the present title was adopted. In that year also the company erected and equipped its present modern plant, which utilizes nine and one-half acres of ground. The original building, two stories in height and of substantial construction, occupied two and one-half acres of the tract mentioned, and with the continued and remarkable expansion of the business it has been found necessary to add to the dimensions of the building from year to year, the business of the company having virtually doubled itself each successive year since 1910 and the broad scope and importance of the same being effectually indicated in the fact that operations are now based on a capital stock of two hundred thousand dollars. The present personnel of the executive corps is as here noted: George B. Dryden, president; George C. Reeves, vice-president; and Walter P. Barton, secretary.

It has been through the medium of products of unique character and of unmistakably practical value that the substantial business of the Dryden Rubber Company has been built up. In the plant of this company are manufactured rubber shoes for horses, as well as a remarkably effective line of rubber hoof-pads that likewise give great protection to horses in maintaining foothold under adverse conditions. The business has been expanded also to include the manufacturing of the highest grade of rubber soles and heels for shoe manufacturers, besides various rubber specialties for use by automobile manufacturers, plumbers and other industrial concerns. In short, it may be said that this company turns out a concededly superior line of mechanical rubber goods, with an annual output that has now reached the enormous aggregate of about four million pounds of finished products. The goods manufactured constitute their own best advertising and the trade of the company extends into all parts of the United States and into Mexico and Cuba. The hoof-pad that has gained to the concern specially wide reputation and that has conserved humane ideals in the treatment and handling of horses, was patented by the president of the company and has met with unqualified commendation and wide sale. The company has ordered its affairs with progressiveness but yet with a wise measure of conservatism and it now controls one of the really important industries of Chicago, employment being given to about five hundred and fifty persons, including a contingent of specially skilled artisans.

In February, 1914, the Dryden Rubber Company instituted the manufacturing of fiber soles for shoes, and this has been developed into one of the most important departments of the business. Germane to the present scarcity and almost prohibitive price of leather, fiber soles are now being extensively utilized by practically all manufacturers of shoes in America, and the new material has been found greatly superior to sole leather in virtually every respect. The great demand for the new material has made it necessary for the Dryden Rubber Company to keep the fiber department of its factory in operation night and day, and at the time of this writing, in the spring of 1918, the establishment is turning out from twenty thousand to thirty thousand pairs of fiber soles daily.

GEORGE B. DRYDEN

The president of the Dryden Rubber Company was born in Olmsted Falls, Ohio, on the 6th of July, 1869, and he acquired his youthful education in the public schools of the city of Cleveland. There he gained in the meanwhile practical experience of valuable order, for as a lad of twelve years he became the first messenger boy at Cleveland for the Lake Shore & Michigan Southern Railroad. He eventually won promotion to a position in the offices of this company, and the alliance continued five years. For ten years thereafter he was in the service of the Standard Oil Company, and within this period he maintained headquarters in turn at Cleveland, Ohio, and South Bend and Whiting, Indiana. He then came to Chicago and assumed the position of manager of the department devoted to ball-bearing axles and solid-rubber tires in the establishment of the Kelley-Maus Company. About one year later he took independent control of the solid-rubber tire department and continued operations under the title of the Imperial Rubber Tire Company. As chief executive of this corporation he continued his activities for the ensuing three years, at the expiration of which he organized the Dryden Hoof Pad Company, as previously stated in this context. Concerning his career since that time adequate outline has been given in the foregoing article.

Mr. Dryden is aligned in the ranks of the Republican party, and is a director of the Chicago Athletic Association, besides holding membership also in such other representative civic organizations as the Union League, the South Shore Country Club, the Glen View Country Club, the Chicago Automobile Club, and the Evanston Golf Club. He is essentially vital and well poised as a business man and public-spirited citizen, and he finds his chief recreation in golf, hunting and target shooting and as a fancier of standard-bred horses.

In 1901 was solemnized the marriage of Mr. Dryden to Miss Ellen A. Andrus, of Cleveland, Ohio, and they have two children,—George Eastman and Ellen Maria.

HENRY E. PRIDMORE, INCORPORATED

Under the corporate title that consistently perpetuates the name of its honored founder is conducted one of the splendid manufacturing industries of Chicago,—one that has been evolved from a most modest nucleus to proportions that mark it as the most extensive of its kind in America. Thus it becomes *prima facie* that this enterprise contributes definitely and in large measure to the industrial supremacy of Chicago, and this publication emphasises its consistency when it directs attention to the great manufactory of the Pridmore molding machine and pays tribute to the sterling citizen and talented inventor to whose ability and energy was due the inception and development of this important industrial enterprise involved, Mr. Pridmore having continued as the active head of the business until the time of his death. In a prefatory way may well be reproduced and perpetuated the following extracts from the fine general catalogue recently issued by this representative corporation:

“Henry E. Pridmore was a pioneer in the development of the molding ma-

chine, and to his mechanical ability and insight into the future demands of the foundrymen may be credited no small part of the efficiency of foundry practice of to-day. The first gift of Mr. Pridmore to the industry was the stripping plate, in 1886, while he was superintendent of experiments for the McCormick division of the International Harvester Company. Here the Pridmore molding machine was perfected and worked into successful operation. Following this Mr. Pridmore studied the needs of the foundry, and he subsequently brought out the rockover drop, plain rockover, etc., which are forming so important a part in the foundries of to-day. Dating from the invention of the machine for use in the McCormick foundries up through a small office and drafting room on Wabash avenue, later two floors of a manufacturing building at 111 Harrison street, and into the present plant, at Nineteenth and Rockwell streets, concentrated effort and ingenuity were directed to the improvement of foundry conditions through carefully and intelligently constructed molding equipment. Since the death of Mr. Pridmore the business has been conducted along the lines followed by its founder,—by Mrs. Henry E. Pridmore and son, Henry A. Pridmore,—the important recent developments including the electric jarring, the combination electric jolt rockover.”

The extensive business now conducted under the corporate title of Henry E. Pridmore was founded in 1892, by the late Henry E. Pridmore. The original operations were confined to a small drafting room which he occupied at the corner of Wabash avenue and Congress street, and from this location removal was made to more eligible quarters at the corner of Harrison and Clinton streets. Here was entailed so rapid and substantial and expansion of the business that Mr. Pridmore, with characteristic discrimination and good judgment, purchased, in 1899, the thirteen lots that constitute the site of the present factory,—the largest plant in the world devoted exclusively to the manufacture of molding machines. The new buildings were completed and made ready for occupancy in 1899, and here Mr. Pridmore found ideal conditions and facilities for the continuing of his enterprise on a large and effective scale. In 1912, four years after his death, the company was incorporated with a capital stock of one hundred thousand dollars. In the manufactory are retained about one hundred and fifty employes, more of whom are skilled artisans, and the products of the plant are now shipped to all parts of the world in which the foundry industry is represented. The widow of Mr. Pridmore succeeded him as president of the corporation, and she holds not only this office but also that of treasurer, her son Henry A. being vice-president and secretary.

A supplement of the periodical known as *The Foundry* gave an appreciative estimate of the character and achievement of Henry E. Pridmore at the time of his death, and from the same, with minor eliminations and paraphrase, are taken the following statements, which fully merit retention in this more enduring vehicle. Owing to changes in context formal marks of quotation are not deemed necessary.

Within a few days after his arrival in the city of Glasgow, Scotland, his death there occurred on the 25th of September, 1908, his health having been appreciably impaired for several years previously. Mr. Pridmore was an inventor of no mean order, and his achievements in the manufacture of harvesting machinery, and for the last twenty-two years in molding machinery, place him in the front rank of



Henry E. Pridmore

those who have given their time and study to the development of these problems. His was an intensely practical mind, as is well exemplified by the long list of patents to his credit. In fact, it has long been said of him by his associates, competitors and customers that he was able to grasp an engineering construction problem or a mechanical idea more quickly than was possible by most other men.

Mr. Pridmore was born at Brockport, New York, on the 21st of September, 1854, and thus was but fifty-four years of age at the time of his demise. In his native city he profited duly by the advantages of the public schools, and there also he served a thorough apprenticeship to the trade of machinist. He finally removed to Rochester, New York, where he entered the employ of a firm manufacturing engine governors. Later he was employed in a printing-press manufactory at Palmyra, that state, and later he removed to the city of Albany, where he initiated his association with the manufacture of agricultural implements, this alliance having been destined to have important influence in directing his subsequent activities. After leaving Albany he returned to Brockport, where he entered the service of the Johnston Harvester Company. There he remained two or three years and he then went to Springfield, Ohio, to enter the employ of the Wardner, Bushnell & Glessner Company, now the Champion division of the International Harvester Company. In 1879 he entered the employ of the McCormick Harvesting Machinery Company, in the city of Chicago, and with this concern, later a part of the International Harvester Company, he remained until he started in business for himself, in 1892.

In 1886, while in the employ of the McCormick Company, Mr. Pridmore invented his first molding machine, having been at the time the company's superintendent of experiments. The machines were used successfully in the McCormick foundries, and after Mr. Pridmore severed his alliance to engage in the production of his inventions in an independent way he started with the little drafting room on Wabash avenue, the while he had his machines built in jobbing machine shops. In May, 1899, the present extensive plant at Nineteenth and Rockwell streets was placed in commission.

Mr. Pridmore was the man who first made the stripping plate molding machine a commercial success. This machine is made by the Pridmore corporation in thirteen different designs. Other molding machines invented by him include the rockover drop machines and the plain rockover machine. The last machine designed by Mr. Pridmore was built and shipped just before he left Chicago for Europe, where his death occurred, and was a special stove-plate rockover. In harvesting machinery the following inventions are to his credit: A steel self-binding harvester, a front-cut mower, a vertical corn harvester, a sweep-rake reaper, a binder, a knotter, and many patents in combination with others.

The Henry E. Pridmore corporation was the first to introduce the electrically operated molding machine, which has proved an unqualified success, and this and other machines manufactured in the extensive plant find imperative demand in all sections of the world, as previously stated, the concern having direct representatives in the city of London for the facile handling of the European trade, including that in India. The corporation has membership in the National Founders' Association and the American Foundryman's Association. At the great international exposition held in the city of Paris in 1900 a gold medal was awarded on the Pridmore molding machinery. It is unnecessary in this article

of definite limitations to attempt detailed mention of the various unexcelled products of the Pridmore manufactory, and for such information recourse may readily be taken to the ample literature issued in the way of catalogues and incidental brochures. It has been clearly demonstrated that castings of every size and shape are adapted for machine molding, and thus no foundry can claim to have proper modern equipment without such machine-molding facilities. Of the varied and high-grade products of the Pridmore factories the following brief description of general order can not prove amiss in this article. The stripping plate type of machine is the one best adapted to the greatest variety of work. These Pridmore machines are exceedingly simple and afford an unfailing method of producing castings absolutely true to pattern, these machines being manufactured in small sizes and also in square double and treble shaft designs that are moved by cranes. The plain rockover machines, for patterns which have sufficient draft to be rocked out without breaking the mold, are simple and effective. Rock-over drop machines are adapted for patterns with a slight draft, with provision for accurately and rapidly dropping the mold away from the pattern. Power-ramming and hand-squeeze stripping plate machines meet the demand for a machine combining the stripping plate and power-ramming and hand-squeezing features. The plain power-squeezer machine has been adopted by agricultural and large jobbing foundries producing large quantities of small castings, and in connection with match plates a very large production is obtained. The Pridmore electric jarring machine is driven by an individual motor and is especially adapted for the economic ramming of large, deep flasks, large cores, etc.

In character and achievement Henry E. Pridmore signally honored the city in which he long maintained his home and in which he won large and worthy success. He was distinctly a man of thought and action and to him the title of captain of industry could be applied with all of consistency. He was essentially a business man and thus had no desire for political activities, though he was loyal and progressive as a citizen and gave his allegiance to the Republican party. The fine industrial enterprise which he founded stands as the most consonant monument to his memory, and it is gratifying to note that in the direction and control of the same his widow and their son Henry A. have so effectively ordered its affairs and policies that since his death the volume of the business has been doubled.

EMILY M. PRIDMORE

Emily M. Pridmore, president Henry E. Pridmore, Incorporated, was born at Whitehall, Muskegon county, Michigan, her parents having been pioneer settlers in that part of the Wolverine state. In the year 1881 was solemnized the marriage of Mr. Pridmore to Miss Emily M. Hitchcock. In the public schools Mrs. Pridmore continued her studies until she had completed the curriculum of the high school in the city of Muskegon, and though after her marriage she was the gracious chatelaine of the family home it was not until the death of her honored husband that she manifested her remarkable business ability and proved herself equal to the heavy responsibilities that devolved upon her in



Emily M. Pridmore

the management of the affairs of his estate after he had passed from the stage of his mortal endeavors. She was made trustee and executrix of the estate and served efficiently in this capacity for two years after the death of her husband. In order to effect a proper adjustment of the estate she then became associated with her son Henry A. in purchasing the manufacturing business that represented a large part of the estate, this action having been taken in July, 1910. In that year Mrs. Pridmore assumed the exacting dual office of president and treasurer of the corporation of Henry E. Pridmore, and in initiative and executive ability she has made a splendid reputation in industrial and commercial circles, as the head of one of the really great manufacturing enterprises of the western metropolis. She gives close attention to the business of which she is the executive head, but still finds time and opportunity to leave the impress of the true gentlewoman, through her activities in the furtherance of charitable and benevolent objects, her membership in the Millard Congregational church, and her affiliation with the Millard Avenue Woman's Club, the Millard Chapter of the Eastern Star, White Shrine, and with the organization of the True Kindred. Of the four children of Mr. and Mrs. Pridmore the eldest is Edward A., who is president of the International Molding Machine Co., Inc., Henry A. is vice-president and secretary of the Henry E. Pridmore corporation and is more specifically mentioned in later paragraphs; Marshall E. and Earl B. are, in 1917, students in the Tome Preparatory School, at Fort Deposit, Maryland, where the former is equipping himself for matriculation in the Massachusetts Institute of Technology.

HENRY A. PRIDMORE

Henry A. Pridmore, vice-president and secretary of Henry E. Pridmore, Incorporated, has proved his mother's able coadjutor in the management of the extensive and successful business founded by his father. He was born in Chicago on the 12th of July, 1883, and after having made good use of the advantages of the public schools he became associated with his father's business, in connection with which he gained comprehensive training that well fortified him for his executive duties when he assumed his present position with the corporation, his connection with the business having been instituted in 1900, and he having been vice-president and secretary of the corporation since 1910, as previously noted. His political support is given to the Republican party and he maintains affiliation with the following named Masonic bodies: Columbia Lodge, No. 819; Lawn-dale Chapter; Columbia Commandery, Knights Templars; Oriental Consistory, and Medinah Temple of the Mystic Shrine. He is affiliated also with Equality Chapter, Nazareth Shrine, and the True Kindred.

In the year 1913 Mr. Pridmore wedded Miss Anna Hart, of Chicago, and they reside at 3824 West Adams street, his mother maintaining her home on Central Park avenue.

Mr. Pridmore has proved himself one of the vigorous and progressive young business men of his native city and as a representative factor in local industrial circles he is well upholding the prestige of the name which he bears.

LEONARD PETERSON & CO.

A Chicago industrial and manufacturing institution of more than passing interest in connection with the compilation of a publication of this order is that of Leonard Peterson & Co., manufacturers of laboratory furniture for chemical, physical, biological and physiological laboratories, domestic science and manual training institution and departments, inspection laboratories, hospitals, industrial plants, etc. The corporation is one of the largest and most important of its kind in the Union and the admirably equipped and modern manufacturing plant is eligibly located at 1234-48 Fullerton avenue. All products sent forth from this establishment are of the highest grade and include many of special design. The output is shipped to all parts of the United States and Canada and has met with special approval and use in connection with educational institutions and general scientific laboratories. Every detail of equipment is provided for by the factory and sales department of Leonard Peterson & Company, and among the products may be briefly noted the following: Chemistry furniture; physics and biology furniture; instructors' tables and lecture-room furniture; museum cases; drawing tables and cases; funnel, burette and test-tube supports; domestic-science, sewing and manual-training furniture and equipment; and complete manual-training outfits for classes of varying numbers of members. In the attractive show-room of this representative corporation has been placed a permanent exhibit of model laboratories for physics, chemistry, biology, pathology, physiography, domestic science, hospitals and industrial plants, and this exhibit is proving of distinct service to those interested in high-grade laboratory equipment. From one of the handsome catalogues issued by Leonard Peterson & Company are taken the following pertinent extracts, which bear their own significance and are distinctly worthy of reproduction in this publication, the very limitations of which make impossible the entering into manifold details concerning any concern here represented:

"The rapid growth of the sciences induced us to organic chemistry research and practical work. Full information pertaining to this and other products is given in the excellent catalogues issued by the company, and available upon application. The officers of this progressive industrial corporation are as here noted: Leonard Peterson, president; Gorg Funk, secretary; Oscar L. Lethander, first vice-president; and Florence B. Peterson, second vice-president.

The year 1890 was marked by the formation of a partnership on the part of Leonard Peterson, Roger Simonson and Olaf Jensen, who engaged in the manufacturing of architectural woodwork, under the title of the West Chicago Manufactory Company and with headquarters at the corner of Fulton street and Milwaukee avenue. At the beginning special attention was given to the manufacturing of artistic woodwork for the fancy porches or verandas that were then in vogue, and the output of the factory included also high-grade stairways and general casing work. The three interested principals were all skilled artisans and at the start they constituted the operative force of the factory, save that two employes were retained. Energy and effective service brought about a rapid development of the business and within seven months fully twelve skilled workmen were employed in the factory, which had two thousand square feet of floor space and was equipped with the best of machinery. At the original



HENRY E. PRIDMORE, INC.
The Largest Plant in the World Devoted Exclusively to the Manufacture of Molding Machines

location operations were continued until the 4th of January, 1891, and in the meanwhile, in 1891, the business had been incorporated, with Roger Simonson as president and treasurer and Leonard Peterson as secretary. At the opening of the year 1893 Mr. Peterson sold his interest in the business, this transaction having been consummated at nine o'clock on the morning of January 4th. At two o'clock in the afternoon of the same day Mr. Peterson, who had leased a floor in the same building and had fitted the same with proper mechanical equipment, began on a small scale the manufacturing of laboratory furniture,—a field of enterprise in which he had long been desirous of establishing himself and in which he became a veritable pioneer,—a leader who opened the way for many others to establish profitable enterprises of similar order in various sections of the Union. He had the distinction of being the very first to manufacture a special line of laboratory furniture in the United States, and perhaps in the entire world, and, like all pioneers, he encountered many obstacles and discouragements in developing a popular appreciation that should make his unique enterprise a success. That he labored wisely and well needs no further voucher than is afforded in the scope and importance of the business now controlled by the corporation of which he is the executive head. On the 1st of May, 1893, Mr. Peterson removed his factory to a building at the corner of Washington and Clinton streets, where he utilized only eight hundred square feet of floor space. Like many others, he met with severe financial reverses incidental to the panic of 1893, but he did not lose courage or abandon his purpose. In 1898 he removed his factory to the corner of Union street and Milwaukee avenue, where, in partnership with Soren Peterson, who gave capitalistic support without becoming actively identified with the business, his son becoming his representative in an executive way, and the new firm adopting the title of Leonard Peterson & Co., the two principals bearing the same name but not being even remote kinsmen. The arrangement thus made did not prove satisfactory and nine months later the partnership was dissolved. Leonard Peterson then assumed sole control of the business and he continued operation in an individual way until 1901, when fire destroyed the six-story building in which his little factory was established and entailed a total loss to him, as he had no insurance indemnity. Four days later Mr. Peterson had effected the equipment of a new factory, at 216 Institute Place, where he utilized six thousand square feet of floor space. Gaining effective capitalistic co-operation at this time, Mr. Peterson effected the incorporation of the business, under the title of Leonard Peterson & Co., and with a capital stock of six thousand dollars. He became president and treasurer of the company and C. P. Williams the secretary. The new corporation forthwith retained the services of twenty skilled artisans and from this time forward the success of the enterprise became assured. For the accommodation of the constantly expanding business greater space was obtained from time to time, and the headquarters were maintained in the Institute Place location until 1908, when the present modern plant was erected on Fullerton avenue, where the substantial three-story building afforded an aggregate floor space of twenty-seven thousand square feet. In 1914 addition buildings, of two stories, were erected by the company, for office, storage and shipping departments, and through the same the floor space of the plant was increased by eighteen thousand square feet. The products of this modern factory are now shipped into all

sections of the United States, as well as into the Canadian provinces, to Porto Rico and to China, all sales being made directly through the mediums of the fine catalogues issued by the company, which maintains a branch office in New York city. The force of skilled mechanics now employed in the factory varies from fifty to sixty.

LEONARD PETERSON

The founder and president of the corporation described in the foregoing paragraphs was born in Prov Upland, Sweden, on the 4th of January, 1861, and is a son of Carl Peterson, who was a prosperous general merchant and influential citizen of his community. In the excellent schools of his native land Mr. Peterson acquired his youthful education and before he had attained to the age of sixteen years he entered upon an apprenticeship to learn the trade of wood turning. He became an expert workman and he was nineteen years of age when he came to the United States, his home having been established in Chicago soon after his arrival, in 1880. Within a few weeks he found employment at his trade, but his employer took advantage of his ignorance of English and the habits and customs of the land of his adoption by paying him only seven dollars a week. The ambitious youth soon began to understand the conditions under which he was working and finally he entered the employ of the Austin & Boynton Co., at a salary of ten and one-half dollars a week. His technical skill and his effective service soon gained him advancement and he remained specialize in the manufacture of high-grade furniture for all kinds of laboratories. We have been in the wood-working business for twenty-five years and during this period we have given special attention to the manufacturing of laboratory furniture and scientific apparatus. Our experience, plus frequent conferences with acknowledged authorities in science, enables us to furnish equipment that is in keeping with the growing demands of the various sciences and industries. The laboratory is becoming more and more a factor in education, in the professions and in the trades. We furnish laboratory furniture not only for educational institutions but also for private experimental and clinical laboratories, such as meet the needs of physicians, commercial chemists and pathologists. We furnish also equipment for hospitals, for city, state and federal inspection laboratories, for filtration plants, and for laboratories used in connection with the control of manufacturing processes, such as steel and metal, baking powder, dyes and dyestuffs, cement, and the coal-tar industries. The increasing demands of wholesale grocers, dealers in textiles, and large mail-order establishments for the technical service of the well equipped laboratory have received our careful consideration. We use improved methods that insure strength and durability. We offer the highest grade of laboratory furniture. Our goods are designed right, made right, delivered right and installed right. Our factory is complete in every department. The machinery is the most efficient on the market for cabinetmaking. The most expert operators are employed. We are always on the alert for anything that will improve our facilities."

Leonard Peterson & Co. not only provide the best of furniture for laboratory use but also sell and install the full laboratory equipment, so that the service of

the institution effectively covers all details, as is true also in the fitting out of domestic-science and manual-training departments. A special product manufactured exclusively by this corporation is the Fales laboratory desk, a remarkably improved and effective device for general chemistry, quantitative analysis and with this company five years, his pay in the meanwhile having been advanced to the highest given to any skilled artisan in his line in the entire city. To broaden his experience he finally resigned his position and found employment with the Philip Rinn Planing Mill Company. Five months later he was tendered the position of foreman in the planing mill of Dickson & Peterson, where he had charge of the work of six wood turners. Here he continued his service five years and he then engaged in business for himself, as noted in the preceding article.

Mr. Peterson is independent in politics, with a general appreciation of the principles of the Democratic party, and he takes loyal interest in all that touches the welfare of his adopted country, where he has won for himself success of definite and worthy order. He is affiliated with the Independent Order of Odd Fellows and also with the Svea Society, the oldest Swedish society in the United States.

In 1909 Mr. Peterson wedded Miss Florence Bennett, of Chicago, who was born in Wisconsin and reared in Iowa. Mrs. Peterson is an active worker and leader in civic welfare movements and has achieved a wide reputation as a public speaker, both she and her husband being liberal and broad-minded and standing exponent of the highest ethical and civic ideals.

SHERMAN W. TRACY

President of the Chicago Tunnel Company and Chicago Warehouse and Terminal Company. General Offices, 754 West Jackson Boulevard.

Mr. Tracy was born in North Carolina November 29th, 1867. His parents early removed to Ohio where he was educated in the public schools of Fostoria. His first position was that of telegraph operator with the Hocking Valley Railroad Company. He afterwards occupied various positions with the Indiana, Illinois and Iowa Railroad, the Chicago, Indiana and Southern Railroad, and Indiana Harbor Belt Railroad, his last position being that of auditor of the last named company. In 1912 he was elected Vice-President of the Chicago Tunnel Company and allied corporations, and upon the death of the President, Mr. C. W. Hotchkiss, was elected president of the companies in 1917. He is a member of the Traffic Club, Windsor Golf Club, Illinois Athletic Association, and various Masonic bodies.

SEAMAN PAPER COMPANY

As manufacturers of and wholesale dealers in all kinds of paper this company has gained and retained a place of primary importance and influence in

this field of industrial and commercial enterprise, and the concern now ranks as one of the largest and most thoroughly representative in the paper trade of the United States. The company controls the best of productive and supply facilities, its trade is widely distributed and a specialty is made of contracts for the supplying of paper in carload lots. The Chicago general offices of the company are established in the Continental & Commercial Bank Building, 208 South LaSalle street, and branch offices are maintained in the cities of New York, Philadelphia, Buffalo, St. Louis, Milwaukee, Minneapolis and St. Paul. Like many another of the important industrial enterprises leading to the prestige of Chicago as a distributing and general commercial center, this business had a modest inception, and its development and upbuilding were in large degree due to the energy, initiative and progressiveness of the late Thomas C. Bermingham, who continued as the president of the Company until his death and concerning whom more specific mention will be made in the following article. The now extensive business has been developed through effective service and through the fair and honorable commercial principles and policies that have characterized the administration of the Company's affairs during the entire period of its history.

In 1889 Thomas C. Bermingham became one of the principals of the firm of F. K. Moody & Company, a well established concern in the wholesale paper trade. In 1902 was effected a reorganization of the business, which was then incorporated as the Moody & Bermingham Company.

Mr. Bermingham was made president of the new Company, and two years later the corporate title was changed to the Bermingham & Seaman Company, and in October, 1917, to the Seaman Paper Company. Under careful and progressive management the business steadily expanded in scope and importance and its volume at the present time marks it as one of the largest enterprises of the kind in the Union. The incorporation of the business under the Illinois laws dates from January 2, 1902, and in the meanwhile Mr. Bermingham had been given the worthy satisfaction of witnessing the development of the business to large proportions, though it was not long given him to continue his earnest endeavors as executive head of the business, as his death occurred in 1914. He was succeeded in the presidency of the Company by George M. Seaman, who is the present incumbent and who is recognized as one of the most influential representatives of the paper trade of the United States,—an acknowledged expert in all details pertaining to the manufacture and sale of paper. Joseph B. Seaman, vice-president of the Company, has the active management of the New York branch of the business, the other officers of the corporation being Clayton W. Sherman, who is treasurer, and Louis H. Bigelow who is Secretary, Duncan R. Seaman is a member of the directorate of the Company and a resourceful factor in the management of the business.

GEORGE M. SEAMAN

George M. Seaman, as noted in the preceding article descriptive of the corporation, succeeded the late Thomas C. Bermingham as president of the Berming-

ham & Seaman Company, and as chief executive, his directing policies have greatly conserved the advancement of the extensive wholesale and manufacturing business which gives to this company acknowledged precedence in the paper trade.

George Milton Seaman was born at St. Joseph, Missouri, on the 24th of June, 1876, a son of Charles H. and Kate (Porter) Seaman. In the public school of his native city he continued his studies until he had completed the curriculum of the high school. He has been identified with the paper business during virtually the entire period of his active career, his residence in Chicago having had inception in 1891. Here he learned the paper business most thoroughly, under auspicious conditions, and in 1905, he became treasurer and a director of the Bermingham & Seaman Company. He continued his effective executive service in these capacities until the death of Mr. Bermingham, president of the company, in 1914, and was then elected to the presidency of the company, and in October, 1917, to the same office in the Seaman Paper Company, successor to the Bermingham & Seaman Company, the office of which he is now the incumbent.

THOMAS C. BERMINGHAM

Thomas C. Bermingham, whose death occurred in the year 1914, left a definite and worthy impress upon the industrial and commercial history of Chicago and was a prominent and honored exponent of the wholesale and manufacturing paper trade at the time of his demise. He was the first president of the Bermingham & Seaman Company, changed to Seaman Paper Company in October, 1917, a review of which is given in the preceding article, and he continued as its executive head until his death.

Mr. Bermingham was born on a pioneer farm in Washington county, Wisconsin, May 21, 1850, a son of Thomas and Ann (Costello) Bermingham. His early educational advantages were those of the public schools of the locality and period, and in 1868 he assumed the position of office boy for the firm of Davis, Lawrence and Davis, paper manufacturers at Beloit, Wisconsin. He was energetic and ambitious, carefully applied himself in learning the various details of the business and won advancement through his effective service. In 1870 he became traveling salesman for the firm and of this position he continued the incumbent until 1872, when he resigned, to associate himself with the well known Chicago paper house of the J. W. Butler Paper Company, which was incorporated under that title in the same year that initiated his alliance. With this representative concern he continued to be actively identified in responsible capacities for the ensuing ten years, and for a decade thereafter he was engaged in the range cattle business in Arapahoe county, Colorado. He finally encountered in this field of enterprise absolute financial disaster, and with characteristic courage he girded himself for the recouping of his losses. Under these conditions Mr. Bermingham returned to Chicago in the year 1892, and here his association with the wholesale paper business thereafter continued until his death, record of his alliance and constructive activities with the Bermingham & Seaman Company being sufficiently outlined in the preceding article. Mr. Bermingham was one of the valued and apprecia-

tive members of the Chicago Association of Commerce and was signally loyal and public-spirited in his civic attitude.

DUNBAR MANUFACTURING COMPANY

In the manufacturing and sale of railroad and automobile supplies and drawn and pressed steel work of all kinds this corporation controls a large and important industrial enterprise, and the general office and factory of the company are established at 5133-39 West Lake street, where a floor space of forty-five thousand square feet is utilized and where is retained an average force of two hundred and fifty employees. In the manufacturing of special patented devices and supplies for railroads and automobiles the company has developed a trade that extends into the most diverse sections of the United States and Canada, as well as into European and South American countries, branch sales offices being maintained in New York city; Richmond, Virginia; St. Paul, Minnesota; Portland, Oregon; and San Francisco and Los Angeles, California.

In 1903 the Acme Supply Company was organized and incorporated for the manufacturing and sale of railway supplies and devices, and the manufacturing plant was established at 5133-39 West Lake street, where the constantly expanding business has since demanded several appreciable additions to the plant. The original corporate title was retained until 1917, when the name was changed to the present form, the Dunbar Manufacturing Company, a title which became effective on the 1st of June of that year. The officers of the company are as here noted: Thomas Dunbar, president; Harry U. Morton, vice-president and treasurer; and Thomas K. Dunbar, secretary. The functions of the company now include the manufacturing of a varied and important line of railway supplies and automobile equipments, stamped steel mouldings, welded steel tubing and drawn and pressed steel work of widely diversified order, including steel doors and interior steel finish for passenger cars. This company figures as the originator of and pioneer manufacturers of vestibule diaphragms for railway passenger cars, and this department of the enterprise is one of primary importance. Of the general output handled by this progressive corporation the following list gives a sufficiently comprehensive estimate: Simplex "U" shape belting diaphragms, Russum steel diaphragms, diaphragm releasing attachments, vestibule curtain outfits, sash locks and fixtures, folding tail gates, all-metal curtain rollers, curtain fixtures and curtains, duplex weatherproof windows, Chanarch steel flooring, Regal revolving shade boxes, Anti-pinch door shields, steel doors, wind-shield tubing, Gosso sanitary beds, steel safety step-boxes, and Kass safety step-treads. Comprehensive circulars and catalogues issued by the company give full description of the various products and it is not requisite to attempt in this limited article the conveying of information thus readily accessible. The high-grade products of the Dunbar Manufacturing Company are used on all leading railway lines in the United States and in the manufacturing of various devices the company has invented and developed special machinery that has been given full patent protection. The general province of manufacturing has been in the production of devices of the highest practical value and the

company is notable for the efficiency of its organization and service. In the personnel of the present executive corps of the Dunbar Manufacturing Company is represented the best of technical and administrative ability, and it is specially worthy of note that the president of the company formerly held the important office of manager of the mechanical department of the Pullman Company, the world's foremost manufacturers of the finest type of railway coaches.

THOMAS DUNBAR

Thomas Dunbar, president of the Dunbar Manufacturing Company, was born in Scotland, on the 22d of January, 1864, a son of Thomas and Elizabeth (Kennedy) Dunbar. He acquired his early education in the schools of his native land and there served also a thorough apprenticeship to the trade of car-building. In 1887 Mr. Dunbar came to the United States and established his home in Chicago, where he forthwith entered the employ of the Pullman Company. His exceptional skill gained him advancement in the mechanical department of this great corporation and in 1908 he was made manager of this department of the extensive manufacturing plant, a position of which he continued the valued and popular incumbent until he became associated with the important industrial enterprise of which he is now the executive head.

Mr. Dunbar has entered fully and loyally into the industrial and civic life of Chicago and is a thoroughly progressive and public-spirited citizen. He is a member of the Chicago Plan Commission, is a republican in politics, he and his wife hold membership in the Presbyterian church, he is affiliated with the Masonic fraternity, and is identified with the Chicago Athletic Association; the South Shore Country Club and the Pullman Club, the family home being at 5330 Hyde Park boulevard.

HARRY U. MORTON

Harry U. Morton, vice-president and treasurer of the Dunbar Manufacturing Company, was born at Painesville, Ohio, on the 25th of April, 1866, and his youthful education was obtained principally in the public schools of the city of Cleveland, that state. In 1891 Mr. Morton came to Chicago and entered the employ of the Pullman Company. From the manufacturing department of the company's business he was finally promoted to a responsible position in the operating department, and he continued this alliance until 1906, since which time he has been actively identified with the railway-supply business, in connection with which he has achieved prominence and distinctive success, as has also his honored associate, the president of the Dunbar Manufacturing Company.

Mr. Morton holds membership in the Chicago Athletic Association and in the Illinois Athletic Club, the South Shore Country Club, the Western Railway Club, and is affiliated with the Masonic fraternity, including Englewood Commandery, No. 59, of Knights Templars and Medinah Temple of the Mystic Shrine.

THOMAS K. DUNBAR

Thomas K. Dunbar, secretary of the Dunbar Manufacturing Company and a son of the president of this corporation, was born and reared in Chicago and is numbered among the alert and popular young business men of his native city. He has received the thirty-second degree of the Ancient Accepted Scottish Rite of the Masonic fraternity, besides being affiliated with Medinah Temple of the Mystic Shrine, and he holds membership in the Illinois Athletic Club and the South Shore Country Club.

SKILLIN & RICHARDS MANUFACTURING COMPANY

One of the important and extensive industries that have contributed in a significant way to the prestige of Chicago is that controlled by the corporation whose title introduces this paragraph. The main office and works of the company are established at 4514-4560 Cortland street, and the generic functions of the concern are the manufacture of elevating, conveying and power transmitting machinery, some of these appliances being used more or less in almost every manufacturing industry. It is needless in this circumscribed article to essay a comprehensive record of the great variety of products issued from the modern plant of the company, except to state that the corporation has special facilities for the economical production of the articles of which it makes a specialty, consisting of friction clutches, Salem elevator buckets, cold rolled spiral convoyer, coal and ore screens, power shovels, chains, sprocket wheels, shafting, pulleys, hangers, etc. Its product is used extensively in grain elevators, starch and glucose works, cereal mills, cottonseed and linseed oil mills, fertilizer and chemical works, breweries, distilleries, malt houses, cement plants, coal tipples and washeries, etc. The factory building, of modern construction and equipment, is one hundred and eighteen by four hundred and eighty-five feet in dimension, and thus gives a great floor space of 57,230 square feet, though it is but one story in height—the most consonant type of construction for an industrial plant of this nature. All goods manufactured or sold by the company are guaranteed to be of the best material and workmanship, and the reputation of the company constitutes an inviolable commercial asset.

The Skillin & Richards Manufacturing Company was founded in the year 1898 and was incorporated with a capital stock of thirty thousand dollars, the original corps of officers being as here noted: Thomas J. Skillin, president; Edward J. Skillin, vice-president and treasurer; and Herbert W. Richards, secretary. The original factory was established in the Kesner building on South Jefferson street, and the efficiency of service and correct business policies brought about a substantial and normal expansion of the enterprise each successive year, with the result that it eventually became necessary to obtain larger accommodations. Accordingly, on the 3d of March, 1902, removal was made to the Chalmers building, at 127-29 Fulton St., where a floor space of more than twenty-two thousand square feet was placed in requisition. The equipment of the new plant was

greatly increased, and to meet the cumulative demands placed upon the plant the floor space was augmented from time to time. The imperative necessity of providing a plant to be erected specially for the company finally led to the building of the present modern factory, in 1911. In the initial stages of the enterprise the force of employees was not in excess of twenty; and by 1911 a corps of seventy-five skilled operators was demanded. The transactions for the first fiscal year of the business 1898-9 amounted to exactly \$178,875.06, and the splendid advancement that has been made is shown in the fact that the business for the year 1917 is certain to be about eight hundred thousand dollars. In the extensive factory of the company is now retained a force of one hundred and seventy-five employees, the major number of whom are highly skilled mechanics.

THOMAS J. SKILLIN

Thomas J. Skillin, the original president of the Skillin & Richards Manufacturing Company, was a scion of staunch New England colonial stock and in the varied relations of life he accounted well for himself and to the world,—a man of sterling character and distinctive ability. He continued as the executive head of the company which he founded until his death, which occurred at his home in Oak Park, on the 16th of June, 1912, his age at the time having been sixty-eight years and his life having been filled with large and worthy achievement.

Thomas Jefferson Skillin was born at Portland, Maine, on the 31st of October, 1843, a son of Thomas and Eliza A. (Libby) Skillin, both likewise natives of the old Pine Tree State, where they passed their entire lives, the father having been a prosperous farmer and an honored and influential citizen of his community. The common schools of his native state afforded to Thomas J. Skillin his early educational advantages, and he was in his eighteenth year when the civil war was precipitated on the nation. He promptly gave evidence of his youthful patriotism by enlisting in Company C, Twenty-fifth Maine Volunteer Infantry, and with this command he gave valiant and loyal service until the expiration of his term of enlistment.

Shortly after the close of the war Mr. Skillin wedded Miss Abbey F. Deering, of Gorham, Maine, and they celebrated the forty-fifth anniversary of their marriage on Christmas day of the year 1911, a few months prior to the death of Mr. Skillin. In 1879 Mr. Skillin came with his family to Chicago, and established his residence in the attractive suburb of Oak Park, where he passed the remainder of his long, honorable and useful life. In 1886, Mr. Skillin became financially interested in the Webster-Comstock Company whose name was later changed to the Webster Manufacturing Company and for several years he served as vice-president and treasurer of this corporation. Upon severing his alliance with this concern he became one of the founders of the Skillin & Richards Manufacturing Company, of which he continued the president until his death; and to the up-building of the business of which his fine initiative and executive ability contributed in large measure.

Mr. Skillin not only held for many years a place of prominence in connection

with the industrial interests of Chicago, but was also one of the most loyal, public-spirited and honored citizens of Oak Park. There he served many years as a member of the Board of Education and he otherwise did much to further the civic and material advancement and prosperity of his home town. He was long one of the most active and popular comrades of Phil Sheridan Post, Grand Army of the Republic, had the distinction of being twice elected its commander, and under its auspices his funeral services were held. He was affiliated also with the Society of the Sons of the American Revolution, and was an appreciative member of the Masonic fraternity, in which his affiliations were as here noted: Oak Park Lodge, No. 540, Ancient Free & Accepted Masons; Cicero Chapter, No. 180, Royal Arch Masons; and Siloam Commandery, No. 64, Knights Templars. He served twice as president of the Oak Park Club and was made an honorary life member of the organization in the year preceding his death. The religious faith of Mr. Skillin was a dominating influence in his life and he was one of the leading members of Unity church in Oak Park for many years, with a record of service as president of its board of trustees for several years.

Mr. Skillin was survived by his wife, two sons and five daughters. Of the sons, Edgar E., is now vice-president of the Skillin & Richards Manufacturing Company, and concerning him individual mention is made in later paragraphs; Ralph W., the younger son, is now with the Skillin & Richards Manufacturing Company. Of the five daughters the following brief record is entered: Belle is the wife of John C. Beye, of Oak Park; Zeta May remains with her widowed mother; Florence is the wife of Dr. C. M. Echols, of Milwaukee, Wisconsin; Abbie is the wife of George M. Kendall, of Glen Ellyn, Illinois; and Alice is the wife of John C. Rawls, of Brighton, Colorado. Both have since passed away. A daughter, Cora, died September 26, 1897, and another son, Thomas Chester, preceded his father to eternal rest by only two weeks. The following appreciative tribute, which appeared in an Oak Park paper at the time of the death of Mr. Skillin, is worthy of perpetuation in this connection:

“Active, energetic and efficient in all he undertook, whether in a successful business career or serving helpfully in civic, social or church affairs, Mr. Skillin found much time for his home, which he dearly loved and in which he was a devoted husband and father. Fruitful in good works, with face alight with good cheer and heart responding to the call of the needy, his memory will long be cherished and held in enduring respect and esteem.”

EDWARD J. SKILLIN

Edward J. Skillin was associated with his brother, the late Thomas J. Skillin, in the organization and incorporation of the Skillin & Richards Manufacturing Company, of which he was the original vice-president and treasurer, and upon the death of his brother, in 1912, as noted in the preceding memoir, he succeeded the latter in the presidency of the company, an office of which he has since continued the able and progressive incumbent.

Edward J. Skillin was born at Gray, Maine, on the 16th of April, 1849, and after having received the discipline of the public schools and the North

Yarmouth Academy, at the age of 18 he accepted a clerkship in the general merchandise store of his older brother, Thomas J., at Portland, and within the ensuing period of two years he completed a course in the Bryant & Stratton Business College in the city of Portland, Me. In 1871, soon after attaining to his legal majority, he took a clerical position with the firm of Jordan & Blake Mercantile Company, of Portland, Maine, and in the employ of this concern he continued seven years. He then, in 1878, purchased the business with which he had been thus identified and founded the firm of Sargent, Lord & Skillin, of which he continued the executive head and successful manager for the ensuing twenty years, so that his association with the one mercantile business in one store in his native city covered a period of twenty-seven years. In 1898 Mr. Skillin sold his business and property in Portland and came to Chicago, where he joined his brother Thomas J. and the late Herbert W. Richards in organizing the Skillin & Richards Manufacturing Company, his service as vice-president and treasurer having continued until the death of his brother, after which he assumed his present office of president. Edgar E. Skillin, a son of the late Thomas J. Skillin, being now the vice-president and general superintendent of the company.

Like his honored brother, Mr. Skillin has taken a lively interest in all things pertaining to the welfare and progress of Oak Park, in which suburb of Chicago he has maintained his home from the time of coming to Chicago. He is an active member of the Oak Park Club, and has served as vice-president of the same. He is affiliated with both the York and Scottish Rite bodies of the Masonic fraternity, in the latter of which he has received the thirty-second degree, and he is a member also of the Independent Order of Odd Fellows and the Knights of Pythias. Both he and his wife are zealous members of Unity church in Oak Park, and in politics he is a stalwart supporter of the cause of the Republican party.

In 1873 was solemnized the marriage of Mr. Skillin to Miss Hattie D. Jordan, who was born at Cape Elizabeth, Maine, and they have three sons, all of whom were born in the city of Portland, Maine,—Harvey T. is a department manager in the great Chicago mail-order house of Sears, Roebuck & Company; Howard N. is General Manager in Ohio for the Union Mutual Life Insurance Company of Portland, Maine; and Clarence P. holds a position in the Chicago sporting-goods establishment of A. G. Spaulding & Company.

HERBERT W. RICHARDS

The late Herbert White Richards, whose death occurred on the 19th of November, 1916, was one of the three principals concerned in the organization and incorporation of the Skillin & Richards Manufacturing Company, of which description has been given in a preceding article, and he served effectively as secretary of the company from the time of its inception until his death, which resulted from a paralytic stroke. He was a man whose character was the expression of a true and loyal nature and in the active affairs of business he achieved success worthy of the name.

Mr. Richards was born at Picton, province of Ontario, Canada, on the 6th of October, 1861, and thus was fifty-five years of age when he was called from the stage of life's mortal endeavors. He was a son of John Richards, a substantial and honored citizen of Picton, and in his native place he acquired his youthful education. As a lad he gained practical experience in the hardware establishment conducted by his father, and about the time of attaining to his legal majority he came to Chicago, where he readily found employment in the plant of the Webster & Comstock Company. He developed marked mechanical ability and thus was well fortified in a technical as well as an executive way when he became associated, in 1898, in organizing the Skillin & Richards Manufacturing Company, to the splendid success of which he contributed much. He made a deep study of manufacturing problems and policies and became expert in determining the cost of production and general overhead expense, so that his executive service with his concern was doubly valuable. Concerning him the following merited estimate was given at the time of his demise:

"Mr. Richards was very well known to the elevator and contracting trade and furnished the equipment for many of the large terminal houses of the country. He was a quiet, unassuming man who made friends and kept them. He was one of the valued citizens of Oak Park, where he was active in church work, liberal in the support of worthy charities and benevolences and always ready to aid in the furtherance of civic progress. His religious faith was that of the Congregational church and he gave long and faithful service as Sunday-school teacher and superintendent. In national politics he gave allegiance to the Republican party, but in local affairs he was independent of partisan lines. He became affiliated with the Masonic fraternity when a young man and always took deep interest in its history and teachings."

In his native town of Picton, on the 5th of January, 1887, was solemnized the marriage of Mr. Richards to Miss Carrie Lazier, a daughter of Nicholas and Frances (Cory) Lazier. Mrs. Richards still maintains her home in Oak Park, and of her three children two remain with her,—Misses Irene and Helen. The eldest daughter, Edith, is the wife of Carl Nowak, of St. Louis, Missouri.

EDGAR E. SKILLIN

Edgar E. Skillin, who is now vice-president and general superintendent of the Skillin & Richards Manufacturing Company, is the elder of the two surviving sons of the late Thomas J. Skillin, to whom a memorial tribute is paid in a preceding article. Mr. Skillin was born in the city of Portland, Maine, on the 25th of July, 1868, and he acquired his rudimentary education in the public schools of his native city. He was about eleven years old at the time of the family removal to Oak Park, in 1879, where he attended the public schools, a discipline that was effectively supplemented by a course in the Metropolitan Business College, Chicago. At the age of eighteen years Mr. Skillin entered upon an apprenticeship to the trade of machinist, and his service along this line was in the factory of the Webster & Comstock Company, in

which his father was a stockholder and executive. He completed a thorough apprenticeship of three years and after the title of the concern was changed to the Webster Manufacturing Company he held for two years the position of receiving and shipping clerk at the factory. For the ensuing five years he did most efficient service as a traveling representative of the company, and his technical ability tended greatly to conserve his success as a salesman. In 1904 he was assigned to the position of general superintendent of the manufacturing plant of the Skillin & Richards Manufacturing Company, and he still retains this incumbency, with a thorough knowledge of all details of the business, both from a productive and a commercial standpoint. After the death of his honored father he was elected vice-president of the company, and he has since served in the dual capacity thus implied.

Mr. Skillin is aligned as a loyal supporter of the principles of the Republican party and is serving his second term as justice of the peace of the Town of Leyden. River Grove is a pleasant Chicago suburb in which he maintains his home and in which he is influential in public affairs. He is affiliated with the Independent Order of Odd Fellows, a Past Grand Conductor of the Grand Lodge, has been chairman of various committees, the Benevolent & Protective Order of Elks and the Independent Order of Foresters, also the Knights of Pythias.

April 2, 1889, recorded the marriage of Mr. Skillin to Miss Ruth Eva Pease, daughter of William Pease, of Geneva, Illinois. Mrs. Skillin passed to the life eternal on the 18th of January, 1917, and is survived by two children,—Henry Willard and Charles Edgar.

CAMERON L. WILLEY

One of the primary functions of this publication is to pay memorial tribute to men who have wrought largely and well in connection with the manufacturing, commercial and general industrial enterprises that have contributed much to the prestige of the great western metropolis and who, after large and worthy achievement, have passed from the stage of life's mortal endeavors. In the death of Cameron L. Willey, on the 28th of November, 1916, Chicago lost a captain of industry who had here developed the largest hard-wood veneer plant in the United States and who had gained worldwide precedence as an authority in all matters pertaining to this line of industry. From his youth to the time of his death Mr. Willey had been closely associated with the lumber trade, and in this connection he ran the full gamut of experience, so that, as a representative of this domain of enterprise he had "a reason for the faith that was in him" and directed his gigantic and productive activities with the most secure poise and from the most impregnable vantage-place. From an appreciative estimate of the man and his achievement are taken the following extracts, and the same are eminently worthy of reproduction, as they are the dictum of L. W. Pitcher, who was a close friend of Mr. Willey and one familiar with the latter's sterling characteristics and splendid initiative and constructive ability:

"Coming from a lumberman's family, it was natural that Mr. Willey should take his first position in the lumber business, and in 1871 he started to work in

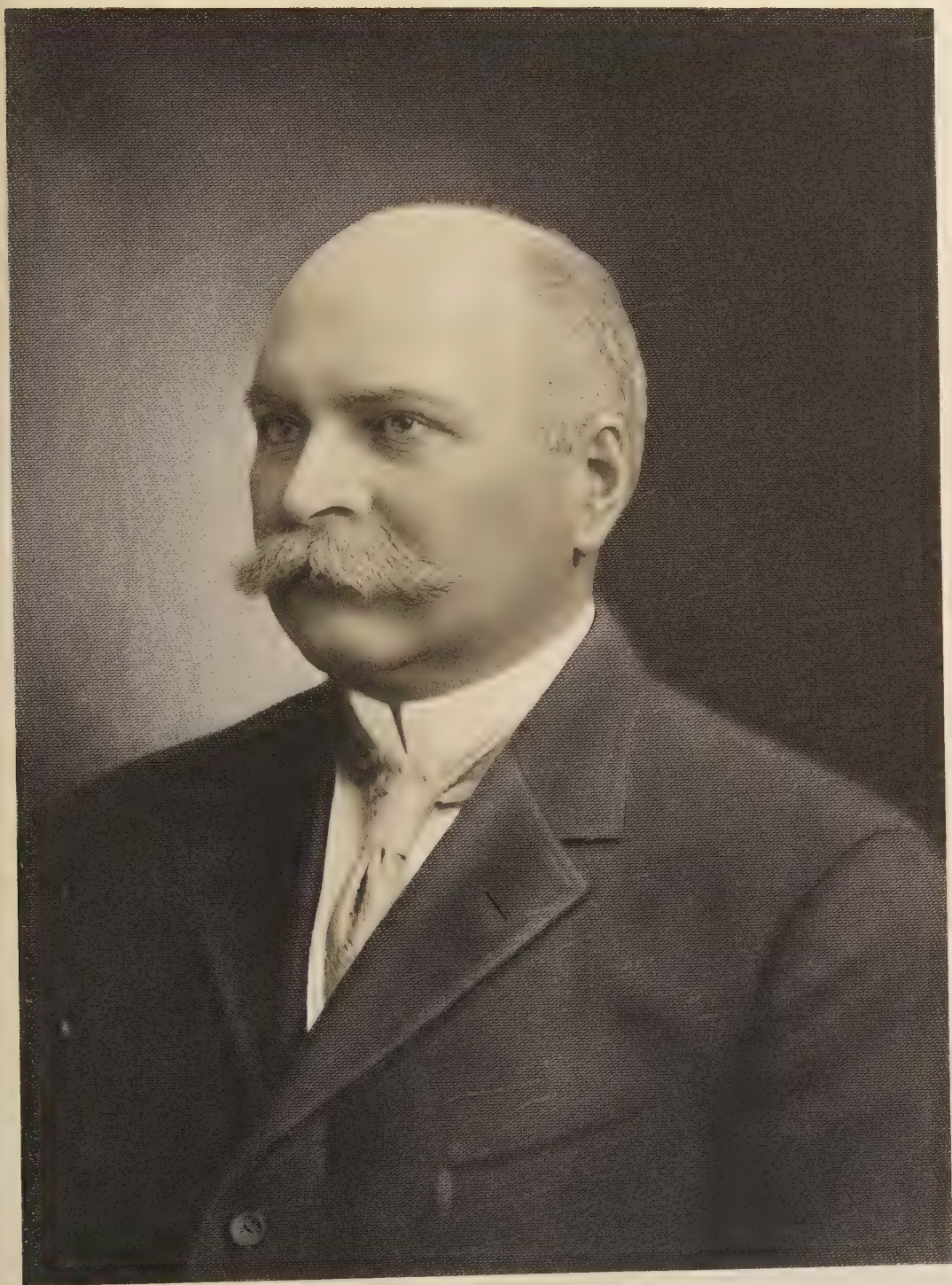
his father's saw mill at Warren, Pennsylvania. He continued there seven years, and in 1877 he entered the lumber business at Allegheny, that state. He handled pine and hardwoods continuously until 1890, in which year he decided to take up the veneer business as a specialty and to adopt Chicago as the stage of his future activities. The site of his first business establishment in Chicago was at Thirty-fifth and Iron streets, and from a modest beginning the plant grew to be the recognized leader of the veneer plants of the country. At first the veneers handled by Mr. Willey were sawed for him under contract, at the Astoria saw mills, Long Island City, New York, and this arrangement continued several years, or until he decided to manufacture for himself. Mr. Willey not only maintained in Chicago the largest veneer plant in the United States but also, and for many years, one of the finest hardwood mills of the south, the same having been located at Memphis, Tennessee. Of this manufactory, however, he disposed several years prior to his death. While Mr. Willey had been a manufacturer of other veneers, he specialized in mahogany and was considered one of the foremost mahogany experts in the country. His remarkable instinct or gift of looking into the very heart of a mahogany log and determining with unfailing accuracy its exact character and intrinsic worth, enabled him to add largely to his wealth, which is estimated at several millions of dollars."

The character of Cameron L. Willey was the positive expression of a strong, loyal and steadfast nature, and in following the course of his sane, distinct and productive life there is no need for indirection or puzzling, for interpretation follows fact in a straight line of derivation. He was buoyant, genial and kindly; he won the staunchest of friends among all sorts and conditions of men, and was entirely free from bigotry and intolerance,—a true and loyal American citizen and veritable captain of industry. He played an unassuming but large and benignant part in Chicago industrialism and commanded the confidence and high esteem of all who came within the sphere of his immediate influence. He was the American par excellence, but yet was definitely cosmopolitan, as he had traveled extensively both in his own country and abroad, ever combining business with pleasure and getting the best out of both.

Mr. Willey entered with characteristic zest and power into the progressive spirit that dominates Chicago and also into the best social life of the community. In Chicago he was identified with numerous civic organizations of important order, including the Lumbermen's Exchange, the Union League, the Chicago Athletic Association, the South Shore Country Club, the Chicago Yacht Club, the Chicago Automobile Club and the Real Estate Board Club. He was an enthusiastic patron of golf and baseball, and in the latter connection it may be noted that he was a stockholder in both the National League and the American clubs of Chicago. The automobile enlisted his approval to the fullest extent and as a connoisseur he supplied himself with the finest types of these all popular vehicles. He held membership in the Royal automobile clubs of London, Paris and Berlin. In this connection the following statements merit perpetuation in this review:

"At the outbreak of the war in Europe, in 1914, Mr. Willey was touring continental Europe in his Renault, but while other American travelers were being detained and their cars commandeered by the German government, Mr. Willey had no trouble to return to London.

Cameron Lyon Willey was born at Dansville, Livingston county, New York,



C. L. Willey

in the year 1855, his father having been for many years prominently engaged in lumbering operations in that state and in Pennsylvania. His early educational advantages were those of the public schools and the Russell Institute, at Leroy, New York, in which institution he was graduated. In a previous paragraph it has been noted that as a youth he became associated with his father's lumbering operations, and this context also has already given a brief review of his career since that time.

The strong and noble character of Mr. Willey shone most perfectly in the associations of his home and family, to which his devotion was proverbial, and thus his widow and son have the mede of consolation and compensation given by the gracious memories of all that husband and father signified. In the year 1904 was solemnized the marriage of Mr. Willey to Miss Emily P. Walker, of Louisville, who remains in their beautiful home on Grand boulevard, Chicago. The only surviving child, Charles B., had become closely associated with his father's business and the same is being effectively continued under his executive direction.

CHARLES B. WILLEY

Charles B. Willey was born in the city of Pittsburgh, Pennsylvania, on the 11th of June, 1883, a son of Cameron L. and Rose (Leonard) Willey, and as a vigorous and alert young business man he is fully exemplifying the progressive spirit that has so long dominated Chicago. After leaving the public schools he entered the Shattuck Military Academy, at Faribault, Minnesota, in which he was graduated as a member of the class of 1901, he having been about seven years of age at the time of the family removal to Chicago, in 1890. After leaving school Mr. Willey followed the wise counsel of his father and went abroad to fortify himself in knowledge of the details of the mahogany industry. In this connection he profited by the experience gained in the important markets of Liverpool, England, and Hamburg, Germany, and he passed about two years in thus informing himself in the buying of the raw material utilized in connection with the important manufacturing industry that had been developed by his father. Upon his return to the United States he assumed charge of the domestic hardwood plant operated by his father at Memphis, Tennessee, where he remained thus engaged about five years. In 1912 he was made superintendent of manufacture in the well equipped Chicago plant operated by his father, and since the latter's death, in 1916, he has had entire control of the business, for which his previous experience eminently qualifies him.

Mr. Willey is a popular figure in the representative business and social circles of Chicago, where he holds membership in the South Shore Country Club, the Illinois Athletic Association, the Chicago Athletic Association, and the Union League and Chicago Automobile Clubs. He finds his chief recreation in fishing, shooting, motoring and in the hunting of big game. In the Masonic fraternity his ancient-craft affiliation is with Sequoit Lodge, Ancient Free & Accepted Masons, and in the Scottish Rite he is affiliated with Oriental Consistory of the Valley of Chicago, besides holding membership in Medinah Temple, Ancient Arabic Order of the Nobles of the Mystic Shrine. His city residence is at 4621

Michigan avenue, and at Antioch, Illinois, in the midst of a beautiful lake district, he has a fine summer home, with modern improvements and with a land area of ninety acres.

January 20, 1913, recorded the marriage of Mr. Willey to Miss Lula Emily Herman, of Antioch, Illinois. They have no children.

ARTHUR HARRIS & COMPANY

Continued success in the industrial and commercial world is a safe criterion of merit, and measured by this standard the above named Chicago concern full merits its high standing and long maintained reputation for fair and honorable dealings and effective service. As coppersmiths and brass founders this firm maintains definite precedence, both in the volume and importance of its operations and also in years of continuous business in Chicago, the present well equipped plant being at 212-14-16 Curtis street. The business was established in 1884, by Arthur Harris, who is a scion of one of the sterling pioneer families of Chicago and who has here maintained his home since his boyhood days. As a skilled artisan in connection with copper and brass manufacturing Mr. Harris was well qualified to initiate the new enterprise that through his energy and progressiveness has been developed to one broad scope and importance, he having been its executive head for more than thirty years.

In starting his modest business in general copper and brass manufacturing Mr. Harris began operations on Fulton street, near Desplaines street, where he obtained about twelve hundred square feet of floor space and initiated business with a force of only six employees. Within a year the expansion of the business had been such as to justify the acquiring of larger quarters, and removal was made to a building at the corner of Lake and Clinton streets. At this location about forty-two hundred square feet of floor space were made available and the force of employes was increased to an average of about thirty operatives. At this location the business was continued for nearly a score of years, and in 1904 the concern removed to its newly purchased and present plant on Curtis street, with frontage also on May street. Here the firm erected a modern brick factory building that affords a floor space of nearly eleven thousand square feet, besides which ample yard room is provided. The corps of employes averages between forty and fifty, and fully three-fourths of the substantial business controlled is done through the medium of the excellent catalogues sent forth to the trade, with the result that orders are received from the most diverse sections of the Union, especially in connection with the high-grade and patented devices for which the firm has gained wide reputation. Mr. Harris, the head of the firm, is the inventor and patentee of an improved still for the production of grain alcohol, wood alcohol, denatured alcohol, as well as other alcoholic distillations, besides which the device is applicable in the distillation of turpentine and essential oils. On this device Mr. Harris received letters patent in the year 1887, and in the meanwhile his brother, George P. Harris, had become jointly interested in the patent. Mr. Harris also invented and patented a soldering tool and a process for utilizing hot solder in the sealing of cans containing meat products and other

food stuffs. This process is now extensively used by the great meat-packing companies, and the system reduced the cost of soldering meat cans from \$4.50 per hundred to \$1.50 per thousand cans.

Arthur Harris & Company have developed a large business with milk-condensing companies, as in the plant of the concern special attention is given to the manufacturing a copper vacuum pan and condenser of such recognized superiority that the device was awarded a medal when displayed at the Panama-Pacific Exposition, in 1916. The prices of this improved condenser range from two thousand to seven thousand dollars, and the firm of Arthur Harris & Company have been engaged in the manufacturing of milk-condensers for a quarter of a century. This protracted experience, attended with careful study and investigation, enables the concern to offer in this and other lines the finest type of machinery and appliances, while the facilities are such that all orders can be filled with promptness and accuracy and at a reasonable cost. The firm manufactures a full line of machinery for the recovery of glycerine and salt from waste soap-lyes, as well as an improved apparatus for the distillation of such lyes and crude and refine glycerine. A specialty is made also of the manufacturing of copper steam-pipe expansion bends for both high and low steam pressure. The firm has long held unrivaled reputation in the manufacturing of copper and brass coils of the seamless type, as well as seamless drawn tubing, and all kinds of copper and brass work for bottlers and for use in soda-water apparatus.

ARTHUR HARRIS

The founder and executive head of the establishment of which record is made in the preceding paragraphs was born at Maidstone, Kent county, England, on the 20th of March, 1848, and is a son of John P. Harris, who came with his family to America and settled in Chicago in 1853. He was a man of education and mature judgment and was prominent and influential in connection with public and business affairs in Chicago in the pioneer days. Here he continued to reside until his death, which occurred when he was about seventy-six years of age. Arthur Harris was about five years old at the time when the family home was established in Chicago, and here he continued to attend the public schools of the day until he was fourteen years old. He then entered upon an apprenticeship of most thorough order and in due time he became a specially skilled artisan in the line of tin, sheet-metal and iron work. As a skilled journeyman he entered the employ of the old and well known firm of Crerar, Adams & Company, with which he continued his service for sixteen years. From a position at the bench he won advancement through various grades of promotion and was finally made a department manager. He initiated his connection with this concern in 1869 and continued with it until he established his present independent business.

Mr. Harris is a stalwart Republican and has always been a loyal and public-spirited citizen of the community in which he has resided since his childhood and it has been his privilege to witness the development of Chicago from a small city to one of the world's greatest metropolitan centers. He is affiliated with the Masonic fraternity and he and his wife hold membership in the Presbyterian

church. Mr. Harris is now consistently to be designated as one of the veteran business men of Chicago and his sterling character and worthy achievement have given him inviolable place in popular esteem.

May 14, 1873, recorded the marriage of Mr. Harris to Miss Helen Young, who was born in the city of London, England, and who was a child at the time of the family removal to Chicago, where her father, James Young, was in the early days in the service of the Allis-Chalmers Company as now designated. Mr. and Mrs. Harris have two children, Arthur J. and George C., both of whom are associated with their father as partners in business, of the firm of Arthur Harris & Company.

HEATH & MILLIGAN MANUFACTURING COMPANY

As distinctly germane to the functions of this publication the history of this representative pioneer industrial institution is of special interest, the business having been founded nearly seventy years ago and its development having kept pace with that which has marked the magnificent advancement of the great metropolis of the west. The company ranks among the leading American concerns engaged in the manufacturing of paints and colors, and its products are distributed not only throughout the United States and Canada but also find extensive demand in foreign countries, so that the prestige and reputation of the concern in international, branch establishments being maintained by the company in all sections of the Union and the distribution of products being thus facilitated.

The manufacturing enterprise now conducted under the corporate title of the Heath & Milligan Manufacturing Company was founded in the year 1851, by Monroe Heath, who, in February of that year, opened a modest paint shop at the north end of the Wells street bridge, Chicago having been at that time a ragged and somewhat uninviting city of minor importance, but one that was making vigorous strides toward the goal of industrial and commercial precedence. Within a short time Mr. Heath, whose business was marked by that efficiency of service that inevitably makes for growth and expansion, removed his shop to larger quarters, in a building on Lake street, near Franklin street. He continued to conduct the enterprise in an individual way until 1853, when he formed a partnership with Evans H. Hurd, under the firm name of Heath & Hurd, and made provision for the amplifying of the scope of the enterprise by leasing for its accommodation a building at 171 Randolph street. In 1860 Mr. Hurd retired from the firm and was succeeded by William F. Milligan, the title of Heath & Milligan, perpetuated in the name of the present company, having been adopted at that time and having since stood exponent of the maximum of excellence in the production of high-grade paints and colors for widely diversified uses. In 1865 the firm removed to 170-172 Randolph street, and in 1869 it purchased this property. Under ownership by the firm the building was enlarged and remodeled to meet the requirements of the constantly increasing business, and here operations were successfully continued until October, 1870, when the building was destroyed by fire, this involving the total destruction of the manufacturing plant. On the same site a new building was immediately constructed and the

same was occupied by the firm before the close of that year. Scarcely had the firm thus made good the disaster by fire when it again was called upon to meet an ordeal through the medium of the same element, for the great Chicago fire of October, 1871, effected the entire destruction of the Heath & Milligan establishment, which became a part of the ashes and ruins of a prostrated city. Within ninety days after the fire the present building of the firm was erected on the same site, and this had the distinction of being the first brick building of any appreciable importance erected within the fire-swept area of the city. The barn building in the rear of what was then 174 Randolph street was the very first brick structure completed in the burned district after the fire, and this also was the property of Heath & Milligan. During the interval of the reconstruction of its building the firm occupied quarters at 103 West Washington street.

Up to the year 1879 a general painting business was carried on by Heath & Milligan in connection with the manufacturing and jobbing of paints, both Mr. Heath and Mr. Milligan having been practical painters of broad experience. In 1879 the contract painting department of the business was abandoned, through its sale to William F. Milligan, who continued the same as an individual.

In 1881, for the purpose of facilitating the business and also as a matter of commercial expediency, the Heath & Milligan Manufacturing Company was incorporated, under the provisions of the Illinois laws, and the following executive officers were chosen: Monroe Heath, president; William F. Milligan, vice-president; and J. S. Currey, secretary and treasurer. After serving a few months Mr. Currey retired, and Ernest W. Heath succeeded him in the position of secretary and treasurer. Upon the death of William F. Milligan Colonel Elliott Durand was elected vice-president of the company. In 1882 the company effected the lease of the building at 174 Randolph street, and with this appreciable expansion of the plant the business was continued at the Randolph street headquarters until 1892, when was erected the new and essentially modern plant on property which the company had purchased, with frontage on Seward street. In 1906 this large and well equipped plant was destroyed by fire, and forthwith the company acquired additional land adjacent to the original site, here instituting the erection of a larger and essential model manufacturing plant specially designed and equipped for the business. Possession of the new plant was taken in 1907 and here operations have since been continued under the most auspicious conditions, the Heath & Milligan paints, colors, varnishes, etc., having been for more than half a century a standard of excellence and the business having been developed upon this intrinsic merit of output and through honorable and progressive commercial policies. The annual transactions of the company now represent an average of several million dollars and the pioneer concern has maintained during the entire period of his history an inviolable reputation.

Monroe Heath, the honored founder of this note-worthy industrial enterprise, passed from the stage of his mortal endeavors in the year 1894,—a citizen who had been exponent of the highest civic loyalty and public spirit and who had made for himself a place among the leaders in the industrial and commercial activities of the western metropolis. In the readjustment that became necessary at the time of the death of Mr. Heath his elder son, Ernest W., was elected president of the company, and the younger son, Arthur M., became its secretary and

treasurer. Ernest W. Heath has since been the executive head and general manager of the business and Arthur M. Heath is general superintendent of manufacturing.

ERNEST W. HEATH

Ernest W. Heath, president of the Heath & Milligan Manufacturing Company, was born in Chicago, on the 21st of January, 1858, and is a son of the late Monroe and Julia (Dickerman) Heath, his father having been one of the representative figures in Chicago business circles for nearly half a century, as intimated in the preceding article, and having been one of the honored and influential citizens of the city, as specially indicated by the fact that he served two terms as mayor of Chicago.

In the public schools of his native city Ernest W. Heath continued his studies until his graduation in the high school, in 1874, and in the same year he became associated with the firm of Heath & Milligan, of which his father was the senior member. From that time to the present he has continued his alliance with this important business enterprise, specific data concerning which are given in the preceding context, and his has been a strong and resourceful influence in the development of the now extensive enterprise. He became secretary and treasurer of the Heath & Milligan Manufacturing Company at the time of its incorporation, in 1881, and continued the incumbent of this dual office until the death of his father, in 1894, when he was made the latter's successor in the office of president and general manager.

In politics Mr. Heath accords unswerving allegiance to the republican party, and he holds membership in the Chicago Athletic Association, the South Shore Country Club, and the Industrial Club.

On the 15th of November, 1881, was solemnized the marriage of Mr. Heath to Miss Florence Hamilton, daughter of William B. Hamilton, of Louisville, Kentucky, and the one child of this union is a daughter, Hazel, now Mrs. George Terry Horton. Mrs. Heath died January 27th, 1917.

NORTHERN ILLINOIS CEREAL COMPANY

This progressive corporation maintains its modern factory at Lockport, Illinois, and its large warehouses and general office and sales departments at 1306 Belmont avenue, Chicago. The business was founded in 1911, by John Dwyer, of Joliet, Illinois, J. F. Hollingworth became president of the company; George D. Ladd, who assumed the dual office of vice-president and treasurer; and Frank F. Ladd, who became secretary. The company was incorporated with a capital stock of fifty thousand dollars and operations were instituted in the exclusive manufacture of a rolled-oats product packed in attractive cartons and bearing the Gold Medal brand. The business expanded rapidly and substantially, and the original capacity of the factory was for the production of two hundred and fifty barrels daily. This was soon increased and in 1916 the capacity had

attained to the noteworthy daily aggregate of six hundred barrels. In 1917 additional facilities and space had to be provided to meet the constantly increasing demand for the high-grade products, and the capacity was raised to eight hundred barrels daily. In the year 1914 was effected a reorganization of the company, and Mr. Dwyer's interests were taken over by Charles W. Buckley, of Highland Park, Illinois, who has since been the president of the company, the capital stock having been increased to two hundred and fifty thousand dollars at the time of the reorganization. George D. Ladd continued as vice-president and treasurer and Frank F. Ladd as secretary. In 1916 the company took action that placed it among the foremost in the manufacturing of cereal food products in America, since at this time the capital stock was increased to one million dollars. In the original factory employment was given to only fifty persons, and at the present time the working force in the admirable plant at Lockport comprises two hundred employees. The original method of handling the product was that of selling the same under the company's own brand of Gold Medal, but it was eventually found expedient to change to the system of selling exclusively to wholesale dealers and jobbers and to affix to the respective packages the private brands of such dealers.

CHARLES W. BUCKLEY

The president of the great industrial corporation described in preceding paragraphs is Charles Wilber Buckley, who has long been a prominent and influential figure in the grain commission trade in Chicago, the world's center of this important line of commercial enterprise. He was born at Peoria, Illinois, on the 20th of August, 1857, and is a son of Robert C. and Elizabeth M. Buckley. In the public schools of his native city Mr. Buckley acquired his youthful education and there he continued his residence until 1880, when he removed to the city of St. Louis, Missouri, where he was engaged in the grain commission trade until 1884, since which time he has been actively identified with the same line of enterprise in Chicago, where he has been a prominent and influential member of the Board of Trade, of which he served as a director from 1898 to 1901, inclusive. He was vice-president of the grain commission corporation of Pratt & Buckley from the time of its organization until 1905, and he has since been the executive head of the representative commission firm of Buckley & Company, which controls an extensive business in the handling of grain and provisions. He is also vice-president of W. G. Press & Company; secretary and a director of Somers, Jones & Company; a member of the firm of Buckley, Pursley & Company, of Peoria; and President of the Phillips Land Company. Of his connection with the Northern Illinois Cereal Company adequate mention has been made in the preceding article. Mr. Buckley and his family reside in the beautiful suburb of Highland Park and he holds membership in the Highland Park Club and the Exmoor Country Club.

In 1882, in his native city of Peoria, was solemnized the marriage of Mr. Buckley to Miss Nannie B. Johnston, and they have four children.—Robert, Saidee, Warren and Elizabeth.

GEORGE D. LADD

As vice-president, treasurer and active executive head of the Northern Illinois Cereal Company Mr. Ladd has achieved prominence as one of the representative figures in the industrial and commercial circles of his native city, his birth having occurred in Chicago on the 8th of March, 1878, and his father, George D. Ladd, Sr., having been long identified with important business interests in the western metropolis. After having profited by the advantages of the public schools Mr. Ladd initiated his business career by associating himself with the Illinois Zinc Company, of Peru, Ill., and for fifteen years he was the representative of this company at Joplin, Missouri, one of the world's great centers of the zinc mining industry. He then became one of the organizers of the Northern Illinois Cereal Company, as indicated in the foregoing article descriptive of this corporation.

Frank F. Ladd, a brother of George D., was likewise one of the founders of the Northern Illinois Cereal Company, of which he has been secretary from the time of its incorporation. He was born in Chicago, on the 30th of October, 1880, and after completing the curriculum of the public schools he identified himself with and became one of the principals in the grain commission firm of George R. Walker Company, and he severed his alliance with the same when he became secretary and a director of the Northern Illinois Cereal Company, to the affairs of which he has since given his close and effective attention.

In 1910 was recorded the marriage of Mr. Ladd to Miss Edith Reynolds, of St. Louis, Missouri, and they have one son, Frank F., Jr.

FRANK HOLTON & COMPANY

The major importance of this industrial concern in its field of operations needs no further voucher than the statement that the great Holton factory in Chicago now turns out and sells more strictly high-grade band instruments than any other factory in the United States, and further authoritative statement is to the effect that the products of this institution are more strictly high grade than those of any other band-instrument factory in the entire world. Holton instruments are used by the bands in the military and naval service of the United States and are to bear the triumphant cry of American patriotism in connection with the nation's participation in the great European war. In the upbuilding of this splendid manufacturing enterprise there have been brought to bear dynamic forces and the tense analytical and constructive talent that in itself offers veritable hostages to fortune. The astronomical parallax demonstrates that it is not always safe to attempt absolute deductions from the result of observations from a single viewpoint. Thus while the popular verdict makes definite contradistinction between artistic talent and business verve and efficiency, with the conclusion that possession of the former inhibits the development of the latter, yet the achievement of Frank Holton clearly demonstrates that a man may be a real musical artist and a successful business man, and through his personal ability give admirable revelation of the truth of this statement. Frank Holton has been the man to whom is due the inception, development and upbuilding of

one of the foremost band-instrument manufacturing industries in the world, and he has talked little to do much. It is needless to say that the Holton factory represents the maximum of excellence in general equipment and facilities and constitutes a valuable contribution to the gigantic commercial and industrial interests of the western metropolis. The factor is the largest in the world devoted exclusively to the manufacturing of high-grade band instruments. It is not within the province of this publication to attempt in any instance description of products of the various concerns represented within its pages, nor is there the slightest demand for such indulgence, as literature issued in the way of catalogues, bulletins, etc., adequately cover this phase. Here, however, it is purposed to offer specific surveys that, though brief, shall indicate the relative importance and general functions of the business institutions represented, and to such consideration the Holton concern is eminently entitled.

To offer, within the circumscribed limitations that must needs be observed, a succinct estimate concerning the development of the extensive business of Frank Holton & Company it is deemed expedient to reproduce, with minor paraphrase, the following record, originally published in the *Manufacturing News*:

"All Americans like stories of success. They like to become intimately acquainted with men who do things. This is a story of success. As in all similar histories, you may read between the lines tales of temporary discouragement; the rocks and shallows of the financial roadstead; of the blues, of grueling work, of self-denial, persistence and courage. The founder of the business, Frank Holton, then a professional trombonist, discovered how to compound a slide-trombone oil better than anything on the market. He began to manufacture this oil, advertising it extensively, and so worked up a profitable business. Later he hired a repair man and commenced to solicit repairs from local musicians. During this time Mr. Holton was not above taking local work as a musician, and for a long time he was trombonist in one of the theater orchestras of Chicago, putting every cent above living expenses into the little business,—in the absolute faith that some day he would reap an adequate reward for his persistence and self-denial. From repairing it was but a step to the handling of second-hand instruments, and in a short time he became known as the man to go to if a secondhand instrument was needed. His long professional experience made him able to judge the value of an instrument and its selling possibilities more surely than any one then or now in the business.

"The next step was the manufacture of new instruments. Mr. Holton engaged an expert workman and commenced a series of experiments, with the idea of bringing the elusive and unsatisfactory slide trombone to a point somewhat nearer perfection. Again his long professional experience fitted him to do the work better than any other man. Surely a trombonist who has reached the pinnacle of success ought to know how a trombone should be made. The instrument that he perfected was at first shown only to his professional acquaintances, who gave it their unanimous approval. With this encouragement, he advertised it, and its fame spread rapidly. The new trombone sold so well that he had much difficulty in keeping up with his orders, and this necessitated the hiring of more workmen and the procuring of larger quarters. In this connection it may be said that the business has been moved five times,—each time into more commodious quarters.

“Perceiving room for improvement in all types of brass instruments, Mr. Holton began a series of experiments looking to the perfecting of band instruments in general. Never until he was absolutely sure he had an improvement did he venture to put an instrument on the market. He advertised as much as the finances of his business would warrant. He believes in advertising. He has never intentially made an extravagant statement or claim that a trial of his instruments by a fairminded, competent judge would not bear out. His advertisements were and are conservative, dignified and scrupulously exact, and they have attracted as his customers the very elite of the musical profession.

“Some idea of the growth of the business may be obtained from the following facts: The number of Holton instruments turned out in 1905 was about sixty-five per cent. more than turned out in 1904. During the year 1906 the output increased about sixty-seven per cent. The year 1907 surpassed all previous records; 1908 doubled 1907, and 1913 more than doubled 1908. The cumulative tendency has continued during the intervening years and the transactions of the concern for the years 1916 and 1917 attained to a remarkable volume.”

In the production of instruments of the highest efficiency and finest workmanship Mr. Holton has been a leader in his chosen field, and he has gained well earned precedence as one of the foremost, even as he is most popular, band-instrument manufacturers of America, which leads all other countries in this domain of enterprise. To technical publications and general musical periodicals may consistently be left the offering of technical information supplementing that of the fine catalogues and minor brochures issued by Frank Holton & Company, for such data have no place in a compilation such as the one here presented. Concerning the founder of this admirable business the following estimate has been written: “Frank Holton has very much bettered the band-instrument world by his having lived in it, and this to him constitutes his real success, rather than the ample financial returns which he has been able to reap.”

As a musician Mr. Holton early demonstrated talent, and in its development he brought to bear the characteristic thoroughness and sincerity that have marked his course in all of the relations of life. As a trombonist he rose to the top of his profession, and he reached the acme of his interpretative musical career in holding the first-trombone chair in the famous band directed by that master, John Philip Sousa. A clean-cut, sane and distinct life work has been that of Mr. Holton, and as a man of thought and action and of high sense of personal stewardship he has certainly accounted well for himself and to the world. The Holton band instruments are now the approved vehicles through which the most distinguished artists in this line find expression, and better voucher for the unsurpassed excellence of such instruments can not be asked. The fine industrial plant in which are manufactured the Holton band instruments is of the best modern type of construction and equipment, the main building being three stories and basement and the aggregate floor space of the entire plant being fully 35,000 square feet. The factory is located at 2630-2650 Gladys avenue, about three miles distant from the famed “Loop” district of Chicago, and here employment is given to a force of about three hundred persons, including, as may well be understood, many highly skilled artisans. The basic organization of the concern is notable for harmony and efficiency, and where such close and loyal relations obtain between employers and employes “labor troubles” never

intrude. The firm name of Frank Holton & Company was adopted in the year 1904, and in the same year the business was incorporated under the same title, Mr. Holton having continued the executive head of the business from the beginning and his valued official coadjutors being H. J. Charlton, who is vice-president; and Harold DeBray, who is secretary and treasurer. As offering a delightfully intimate estimate of the character and achievement of Frank Holton it is a privilege to round out this review by making quotations from a characteristically interesting article written by the late and distinguished Elbert Hubbard after he had made a visit to Mr. Holton and the latter's manufactory. Space limitations require the elimination of all but the specially pertinent statements in making this reproduction:

"I imagine that in order to produce a first-class man you have to get a country boy brought up in decent poverty. Frank Holton, like a majority of the successful men of the world, was born on a farm. The location of this farm was near Allegan, Michigan. His strong constitution, which gives him great energy and perfect health, is no doubt largely due to his life on the farm when young. Frank's father was a singer in the village choir and a music-lover. Educated parents have educated children. Those Allegan days were the days of the Mason & Hamlin organ and the men who sold these 'cottage organs' taught their customers how to play them. In the Holton household there was an organ, and much singing and music by the household and neighbors. When fifteen, Frank joined the village band, and practiced evenings in the basement of the courthouse or on the village green. He first played cornet, and when Hi Henry's minstrels came along Holton was lured into the game and became a professional. He soon gave up cornet and took the slide trombone. He made such rapid progress on this instrument that he was the talk of musicians wherever he played. In a short time Ellis Brooks heard of him, and engaged him as first trombone and soloist with his New York Concert Band. Holton remained with Brooks for a number of years. . . . After being with Brooks a number of years Sousa made Holton such a flattering offer to play first trombone that he accepted, and he was with Sousa on many tours, playing, among other engagements, at the World's Fair at Chicago."

The article continues by giving a brief outline of the conditions and circumstances which finally led Mr. Holton to retire from his services as a professional musician and turn attention to the affairs of business, as noted in preceding paragraphs, and finally the context continues as follows:

"In 1904 Frank Holton incorporated his business under the name of Frank Holton & Company, with himself as president and Harold DeBray as secretary. The same arrangement still exists. Other understudies have been educated and brought up in the way in which they should go, and the result is an organization—a unit organization—working harmoniously, lubricated with love and Holton's Electric Oil. Hence Mr. Holton is enabled to devote most of his time to his favorite work,—that of evolving new ideas for the Holton instruments. He has already gotten out nearly a dozen patents, all of which are practical and successful, besides numerous ideas that are in use and have not been patented. Every dollar these men made has been put back into the business. Slowly, conservatively, cautiously, they have built, enlarged, made additions, manufactured new

machinery, and taken care of their customers in a way that makes Frank Holton & Company now the foremost institution of its kind in America.

"Both Sousa and Brooks featured Holton as a soloist, and if you want to get Sousa started, just mention Frank Holton, and he will tell you wonderful tales about a trombone-player who was always on time, never off the key, who always produced the goods, knocking the yaps and yokels off their seats.

"Frank Holton got enough bumps in his early life, so success now can not spoil him. Last summer (This article was written in 1915—Editor) Professor Smithson's Dog Show and Pony Circus and Grand Conglomeration of Stupendous Attractions pitched a tent on a vacant lot near the Holton factories. The leader was a dear old Has-Been who played with Hi Henry in the 'good ol' days.' He came over to see Frank, and, unmindful of a busy man's time, insisted that Frank should go over to the tent and play with the band. A red coat was gotten out, brief as a fickle woman's love, and Frank Holton was installed. And it was the same when Holton was at East Aurora. We fixed him out with the spangles, and he showed the boys how to do it, to their great delight and the joy of everybody. When there is a family reunion and Frank Holton goes back to Allegan, he is seized upon by the church choir and plays for the neighbors in memory of auld lang syne.

"I was specially pleased to see that our Uncle Sam was placing orders with Frank Holton & Company for complete sets of instruments on board our Yankee Dreadnoughts. Also, I saw a full set of instruments which were ordered through the government for the famous Twenty-second Regiment Band,—Gilmore's old band,—of New York city. I was rather pleased to find that most of the trumpets and trombones used in the great symphony orchestras in this country, such as the Boston Symphony, the New York Philharmonic, Damrosch's New York Symphony, the Chicago Symphony (formerly Theodore Thomas) Orchestra, the Philadelphia Symphony, the Cincinnati Symphony, and many less noted orchestras, are Holtons. . . . Frank Holton is to brass-band instruments what Stradivari was to violins. Holton's pride is to make these lovely melodious instruments,—the money is quite incidental. But the money comes in; it always does to the man who can serve humanity. . . . And in his chosen work Frank Holton has set the world a standard which his competitors have not approached, much less surpassed. When they wish to use the superlative, they say, 'This is as good as a Holton!' But beyond this they do not go. Thus are we advertised not only by our loving friends but also by our zealous rivals."

CRERAR ADAMS & COMPANY

Under the corporate title designated above is conducted one of the staunch pioneer business enterprises of Chicago, and its history, under varying changes in control and management, covers a period of more than sixty years. Though the honored and influential citizens whose names appear in the present title have long since passed from the stage of life's moral endeavors and the business is now controlled almost solely by its president, Edward S. Shepherd, who has himself passed the psalmist's span of three score years and ten, his apprecia-



October 7th, 1871



October 9th, 1871



OCTOBER 25TH, 1910



October 25th, 1871



October 9th, 1872

CRERAR ADAMS & CO.

tive loyalty to the memory of his former associates has been significantly shown in his retaining their names in the title of the concern of which he is still the active chief executive. In the handling of railroad supplies Crerar, Adams & Company has long held prestige as the largest concern of the kind in the middle west, and it has played a large part in furthering the commercial and industrial advancement of Chicago, a city that is now one of the foremost of the world's railroad centers. Of the president of this old and important corporation more specific mention will be made in an article that will immediately follow the one here presented.

The business of the corporation dates its initiation back to the year 1856 and was founded by J. McGregor Adams, who began business in a small way consonant with limited demands, for at that time Chicago and the surrounding country showed no such network of railroads as at the present period.

Mr. Adams occupied a small place in Dearborn street and later on Morris K. Jesup, John S. Kennedy and John Crerar became affiliated, branching out in more commodious quarters under the name of Jesup, Kennedy & Co., the enterprise being definitely prosperous under their effective management. In 1865, shortly after the close of the Civil war, the firm moved to the corner of Wells and South Water streets.

Messrs. Jesup and Kennedy retired from the firm and Messrs. Crerar and Adams changed the style of the enterprise to Crerar, Adams & Company, and continued a vigorous and constantly expanding business until the great Chicago fire in 1871, when the firm's building—notable as having been one of the only two iron-front business structures in the entire city was entirely destroyed. With the courage and determination that so significantly animated other business men of the prostrate city, the members of this firm resumed operations practically before the members of the great conflagration were yet cold. For the first year after the fire the business was conducted in a mere shanty that had been erected for temporary use at the corner of Adams street and Michigan avenue.

As soon as possible was instituted the creation of the new building, later known as the Robbins building, at the corner of Fifth avenue and South Water street. This building continued to be utilized by the concern for many years,—up to the time of the removal to the present large and modern building.

Edward S. Shepherd, now president of the company, became the junior member of the firm. In 1889 occurred the death of Mr. Crerar, who had retained his financial interest in the business, and shortly afterward Mr. Adams retired. Under these conditions Mr. Shepherd was the only active member of the firm left to continue the business, and in 1890 he effected the incorporation of the same, under the former firm title of Crerar, Adams & Company. Mr. Adams retained his capitalistic interest in the corporation until 1895, when he sold his stock to Mr. Shepherd, who has been the president and active executive head of the concern since its incorporation, in 1890, and who has been virtually the sole owner of the business since the retirement of Mr. Adams. In 1909 Mr. Shepherd purchased land on East Erie street and there erected a modern and fire-proof building of seven stories and one hundred and thirty by one hundred feet in lateral dimensions, so that here is afforded an aggregate floor space of more than one hundred thousand square feet, all of which is utilized for the

accommodation of the various departments of the extensive and important business of this old and honored commercial concern, the building having frontage on East Erie street from No. 239 to 259, both inclusive. As may well be supposed the company gives employment to a large force of men, and all pay the utmost respect and loyalty to the venerable and honored president, who still maintains an active general supervision of the business.

EDWARD S. SHEPHERD

The president of the company whose history has been outlined in the preceding paragraphs has been a resident of Chicago since 1865 and the foregoing data indicates clearly that he has been prominent and influential in connection with large business activities in the western metropolis. Edward S. Shepherd was born at Orleans, Ontario county, New York, on the 28th of May, 1845, and is a son of Dr. George W. and Julia A. (McBride) Shepherd, representatives of old and honored American families. In 1846 the parents of Mr. Shepherd removed to Dansville, Livingstone county, New York, and there the future Chicago merchant attended school until 1858. He then took a clerical position in a mercantile establishment at Dansville, where he remained thus engaged until 1862, when he came to the west and established his residence in Toledo, Ohio. There he held a position as bookkeeper until the latter part of 1864, and in January, 1865, he came to Chicago. From this year forward to 1869 he was a clerk in the purchasing department of the Illinois Central Railroad, and from 1869 to 1877 he was employed as a salesman for Crerar, Adams & Company. In the latter year as previously noted, he became the junior member of the firm, and of his subsequent activities in this connection adequate record has been given in the preceding review of the history of the corporation of which he has been president since 1890. Mr. Shepherd has been emphatically one of the liberal and progressive business men and a loyal public-spirited citizen of Chicago, and is an appreciative and honored member of the Chicago Athletic Association, the Union League Club, and the South Shore Country Club.

T. WILCE COMPANY

In the clarity of its reputation and the magnitude of its operations this representative Chicago concern has long held a place of distinct priority in connection with the lumber industry centered in the western metropolis, and its history covers a period of more than forty years. The business was established by the late Thomas Wilce, who was at the time one of the prominent contractors and builders of Chicago, and concerning whom more definite mention is made in a memorial tribute that follows the article here presented. In establishing the general wholesale and retail lumber business Thomas Wilce had as his original associate and coadjutor his son, the late Edwin P. Wilce, and the new firm initiated operations in 1873, by purchasing the planing mill of Loft & Burnham,



Ed. J. [unclear]

at the corner of Throop and Twenty-second streets and by establishing shortly afterward a general lumber yard in the same locality. It may further be stated that in the spring of 1880 Edwin P. Wilce removed to Winona, Minnesota, where for the ensuing two years he was associated with Conrad Bohn in the operation of a sash, door and blind factory and in a general contracting business. In 1882 he returned to Chicago and purchased an interest in William Stevens' sash, door and blind factory. In the following year he purchased also the interest of Mr. Stevens and thereafter he continued the enterprise under the title of E. P. Wilce & Company until his death, in 1889. Few names having been more conspicuous in connection with the lumber industry of the middle west than that of Wilce, and the precedence having been continued to the present time. Of the broad and important activities of the firm, and later corporation, of T. Wilce & Company, further details are given in the memoir of Thomas Wilce, who was long the dominating force in the directing and expanding of the enterprise.

In the earlier years T. Wilce & Company conducted a general lumber business but finally it was found expedient to limit operations almost exclusively to the handling of hardwood products, with the eventual result that the concern became known as the most extensive manufacturers of and dealers in maple and other hardwood floorings to be found in the entire Union.

The extensive plant of what is now the T. Wilce Company is still maintained at the corner of Throop and West Twenty-second streets, in the very center of the lumber district of Chicago, the yards, extending along Throop street and having a dockage on the Chicago river of about sixteen hundred feet, having a capacity for the piling of thirty million feet of lumber, the while tracks connecting directly with the Chicago, Burlington & Quincy Railroad system, extend the entire length of the yards and make possible the simultaneous loading of fifty cars. The planing mill and warehouse is a substantial structure of the most modern equipment, the building being two hundred and sixty-six feet by four hundred feet and having a large battery of machines constantly employed in the manufacture of maple and other hardwood floorings. In heightening the superiority of its products the firm devised a special machine for the boring and end matching of its flooring in such a way that it could be nailed in place without splitting, and this improvement in itself effected a noteworthy expansion of the business, the products being shipped to all parts of the United States, into Canada and even to foreign lands. The special boring machine and end matching to which reference has been made was invented and patented by Thomas Wilce, and its wonderful efficiency has been clearly recognized by the lumber trade for more than thirty years, the device having been originated in 1885. From an authoritative source are taken the following pertinent quotations, as showing the advancement made after Mr. Wilce had invented the valuable mechanism that had been suggested in connection with the laying of a floor in his own residence: "During 1890 and 1891 T. Wilce & Company shipped this bored end matched flooring to London, Glasgow, Dublin, Hamburg and Rotterdam, distributing it over seven thousand miles. For years the maple flooring from the firm of T. Wilce & Company commanded almost the entire trade of Chicago and the surrounding country, and with the development of opposition enterprises the concern but accentuated its activities, with the result that its precedence has con-

tinued in an unmistakable way. The great plant in Chicago has the best of equipment throughout, including dry kilns of ample capacity, and the policy has been from the beginning to keep the plant up to the maximum standard. For a prolonged period the firm and subsequent corporation have operated a double band saw mill at Empire, Leelanau county, Michigan, the same having a capacity for the output of one hundred and twenty thousand feet of lumber daily. The concern has for a long period handled an average of more than thirty million feet of lumber yearly. Since the death of the honored founder the extensive industrial enterprise has been successfully conducted by his sons, E. Harvey Wilce, who is president of the company; George C., who is vice-president and treasurer; and Thomas E., who is secretary.

THOMAS WILCE

It was given to the late Thomas Wilce to wield large and worthy influence in the development and progress of Chicago along both civic and material lines, and for many years he was known as one of the leading exponents of the lumber business men in the city and thus in the middle west. Mr. Wilce was born in Cornwall, England, July 28, 1819, and was the eldest of the four children, all now deceased, of Thomas and Mary (Venning) Wilce. Mr. Wilce was but three years old at the time of his mother's death and at the age of ten years he was taken into the home of his uncle, Henry Wilce, where he remained the major part of the time until he had attained to the age of twenty years. Here he had followed the life of the farm and in the meanwhile availed himself of the advantages of the schools of the locality and period. At the age noted he entered upon an apprenticeship to the trade of carpenter and builder, and in this connection he maintained his residence at Padstow, about nine miles from the place of his birth, until the spring of 1842, when he embarked on a sailing vessel and made the voyage to America. He landed in Quebec, Canada, on the 21st of May and thence proceeded to Montreal, where he continued his activities as a carpenter and contractor until 1848. In June of that year he came to Chicago, and from that year to 1850 the family home was maintained at the corner of Randolph and Market streets. In the meantime he purchased, for the nominal sum of two hundred and twenty-five dollars a fifty-foot lot on the west side of Sangamon street, near Monroe street, and on the same he erected a house, at a total cost of four hundred and fifty dollars. In noting conditions in this locality at the present day these figures are startlingly significant, as indicative of the values of that pioneer period. In his subsequent activities as a contractor and builder Mr. Wilce had accumulated a competency by 1867, when he retired from active business. In order to make proper provision for the business training of his sons he resumed his active business life in 1873, when he purchased the planing mill of Loft & Burnham, as previously noted, and thus became the founder of the large and important industrial enterprise which still perpetuates his names.

A man of intense individuality, strong mentality and broad views, Thomas Wilce had splendid initiative and constructive ability and he left a definite im-

press upon the industrial and social history of Chicago, the while his sterling attributes of character gained and retained to him unqualified confidence and esteem. Generous and charitable, he gave his benevolences in a most unassuming way, and they were manifold, and he placed true estimates upon all sorts and conditions of men. Though liberal in his religious views, he had a supreme faith in the spiritual verities and was glad to give ready support to church work, regardless of creed or denomination. He was an earnest advocate of temperance and was for six years treasurer of the Washingtonian Home for Inebriates, besides being otherwise active in practical temperance work. He was liberal and public-spirited as a citizen and served with characteristic efficiency as alderman from the old Tenth ward of Chicago, being assigned to the finance committee of the municipal government. He was the ideal citizen and his character and achievement offer both lesson and inspiration now that he has passed from the stage of his mortal endeavors, his death having occurred on the 2d of March, 1897.

On the 7th of May, 1848, Mr. Wilce wedded Miss Jane Carlisle, who was born at Chautaga, Canada, January 18, 1826, a daughter of William and Jane (Whittaker) Carlisle, both natives of Lincolnshire, England, and of the eleven children, five are now living. Edwin P., who was a partner in forming the firm of T. Wilce & Company, as previously noted, was born March 24, 1857, and died September 20, 1889. Edmund Harvey, who is now president of the T. Wilce Company, is individually mentioned in later paragraphs, as are also George C. and Thomas E., respectively vice-president and secretary of the company. Daniel V., a twin of George C., made a fine record in connection with his father's business and was but twenty-four years of age at the time of his death, February 10, 1889.

E. HARVEY WILCE

The president of the T. Wilce Company was born in Chicago on the 6th of December, 1862, and is the eldest of the surviving sons of the late Thomas Wilce. He gained his early education in the public schools at the age of fifteen years he began to render clerical assistance in his father's office, and since 1897 he has been president of the T. Wilce Company, the business of the original firm having been incorporated in 1897. In 1890 he served as vice-president of the Chicago Lumberman's Exchange, and he is a director of the Chicago Hardwood Dealer's Association, as well as a member of the Builders' and Traders' Exchange, and the Builders'; the Illinois, and the South Shore Country Clubs. He resides at Empire, Mich. In 1903 Mr. Wilce married Mrs. Dorothy Deming, of Chicago.

GEORGE C. WILCE

George Carlisle Wilce, vice-president of the T. Wilce Company, was born in Chicago on the 7th of December, 1864, and his early educational advantages in-

cluded those of the public schools and the local Bryant & Stratton Business College. In 1878 he became an assistant in the business operations of his father, and in connection with the enterprise now controlled by the T. Wilce Company he has been a resourceful and effective factor in furthering its success, his present executive service including that of treasurer as well as vice-president of the company. He is a member of the Lumberman's Association, the Builders' & Traders' Exchange, and the Illinois Athletic Association. His political allegiance is given to the republican party. The family home being at 1704 East Fifty-sixth street.

March 14, 1910, recorded the marriage of Mr. Wilce to Miss Maxine Patenaude, of Chicago.

THOMAS E. WILCE

As secretary of the T. Wilce Company Thomas Ernest Wilce is the youngest of the three brothers who now control the extensive manufacturing and commercial industry founded by their honored father, and he has been identified with the same since he was a youth of seventeen years, his preliminary education having included a course in a local business college. He has been secretary of the T. Wilce Company since 1898 and has effectively collaborated with his brothers in the control and expansion of the business that was founded more than forty years ago and that has consecutively maintained priority in its field of industrial enterprise. Mr. Wilce maintains an independent political attitude and his religious faith is that of the Baptist church. He resides at 606 Marshfield avenue.

CURTIS DOOR AND SASH COMPANY

Basing its operations upon ample capital and the best of technical and executive management, this corporation holds precedence as one of the most important of its kind in the west, and its finely equipped Chicago plant, at 1414-32 South Western avenue, utilizes a ground area of about eighty thousand square feet, while the modern building affords an aggregate floor space of one hundred and fifty thousand square feet. The Chicago department of the substantial industrial enterprise was established in 1912, as a subsidiary of the Curtis Brothers & Company of Clinton, Iowa, a pioneer concern that was founded in 1886 and that still continues operations in the city of Clinton, as one of the leading factors in its line of enterprise in the Hawkeye state and also in the entire west. Branch factories are maintained at Wausau, Wisconsin; Minneapolis, Minnesota; Sioux City, Iowa; Lincoln, Nebraska; Oklahoma City, Oklahoma; and Detroit, Michigan. The Detroit branch is operated under the direct management of the Chicago headquarters. Dayton, Ohio, branch of Chicago; Topeka, Kansas, branch of Lincoln, Nebraska. The sales offices in Chicago were established about 1900, and in 1912 was effected the purchase of the plant of the True & True Company, at Blue Island avenue and Lincoln street. This plant was completely destroyed by fire in February, 1914, and in

the meanwhile the company had instituted the erection of its present building, which was completed that year and which has the best of modern equipment in all departments, including the general offices, with direct transportation facilities through the medium of the Chicago & Northwestern Railroad. The company manufactures doors, sash and other building supplies of both hard and soft wood, and its trade extends into the most diverse sections of the United States. The Curtis Door & Sash Company was incorporated in 1912, with a capital stock of three hundred thousand dollars, and the personnel of its executive corps is as here noted: G. M. Curtis, president; G. L. Curtis, vice-president; E. J. Curtis, treasurer; and Edwin T. Erickson, secretary and general manager. Mr. Erickson has the general supervision of the Chicago and Detroit plants and business and concerning him individual mention is made in following paragraphs.

EDWIN T. ERICKSON

The secretary and general manager of the Curtis Door & Sash Company is recognized as one of the aggressive and representative business men of the younger generation in Chicago and his achievement best indicates his initiative and executive ability. He was born in the city of Milwaukee, Wisconsin, on the 10th of February, 1881, and is a son of Thomas E. Erickson, who was a prominent figure in the control of important lumbering enterprise in Wisconsin and who continued his residence in Milwaukee until his death.

In the public schools of his native city Edwin T. Erickson continued his studies until he had availed himself of the advantages of the high school and as a young man he went to Wausau, Wisconsin, where he became sales manager for the Curtis & Yale Company, which retained in its employ five hundred persons. In 1909 Mr. Erickson came to Chicago as general sales manager for the same company, and later he became one of the organizers and stockholders of the Curtis Door & Sash Company, upon the incorporation of which he was chosen secretary and made the general manager of its important business centered in Chicago and Detroit. He has shown splendid energy and administrative ability in this connection and under his supervision the business has had a steady and substantial growth. In connection with the Chicago headquarters about one hundred and twenty-five employes are retained, and in the Detroit branch about forty are employed. Mr. Erickson is affiliated with the Masonic fraternity, and holds membership in the Riverside Golf Club and the Young Men's Christian Association.

On the 19th of September, 1914, was solemnized the marriage of Mr. Erickson to Miss Getchen Rudebusch, of Mayville, Wisconsin, and they have one daughter, Ellen Julia, the family home in Chicago being at 137 North Homan avenue.

THE DODGE MANUFACTURING COMPANY

The business of this corporation and its affiliated organization, the Dodge Sales & Engineering Company, was founded nearly forty years ago by Wallace

II. Dodge and shortly thereafter the business of the Rice Machinery Company of Chicago, was absorbed by the Dodge Manufacturing Company. Mr. Dodge developed and patented the split pulley that is now extensively used, and also the Dodge interchangeable bushing system. From that time to the present Mr. Dodge has been known as the inventor, patentee and master of the principles and methods that govern the manufacture of all stock pulleys, and under the effective system devised and controlled by the Dodge Manufacturing Company twenty-eight hundred pulleys and forty bushings render the same service as one hundred and eight thousand pulleys of fixed bores, faces and diameters. His inventions have thus brought to Mr. Dodge worldwide fame in manufacturing and general industrial circles, for his system and devices have been adopted in all manner of leading manufacturing institutions in all of the principal industrial centers not only of America but also of foreign countries.

The first pulleys manufactured by the Dodge Manufacturing Company were of the type known as the split pulley, the same being constructed of hardwood and embodying the fundamental principles of compression shaft-fastening and of an interchangeable bushing system. In the original Dodge idea was thus found the basis for a new commercial and economic development of great importance in the field of industrial engineering, and the Dodge bushing system of 1882 remains unchanged and without a rival to the present day. Through its interchangeability the factory owner now finds it possible to buy one pulley that may be fitted to forty different shafts instead of one,—and this versatility is effected by the slight cost of a new bushing, with the result that a pulley once purchased and installed constitutes virtually a permanent asset.

In 1900 the Standard cast-iron split pulley, utilizing similar metallic interchangeable bushings, was added to the productions of the Dodge Manufacturing Company, for even then the split, bushed pulley was being copied in other materials than those found in the original wood type. With the introduction by the Dodge Company of this Standard cast-iron pulley was given even greater consistency to the slogan of the institution,—“A perfect pulley for every place.” This achievement, of inestimable industrial value, has been made through the perfecting and practical amplification of the pioneer invention of Mr. Dodge and through the tangible improvements that have been made through the experience and experimentation of other inventors, and the Dodge Manufacturing Company is now the only pulley manufacturing concern in the entire world that can offer without prejudice the proper type of pulley construction, whether of wood, iron or steel. The company maintains a large engineering staff for the further development of the Dodge products and to render authoritative judgment and effective service in response to the requirements of industrial plants of all descriptions. The services of the superintendents and master mechanics and this engineering department are at the complete disposal of all power users and those who need proper provision for power transmission.

The manufacturing plant of the Dodge Manufacturing Company is established at Mishawaka, Indiana, where it utilizes a tract of ten acres and has industrial buildings of the best modern type, both in architectural and physical construction phases and also in the mechanical equipment of all departments. This plant has capacity for the daily output of fifteen hundred pulleys of the wood split type and one thousand of the cast-iron split type.

In March, 1917, the company acquired properties and manufacturing control of all products of the Oneida Steel Pulley Company and the Keystone Steel Pulley Company, both located at Oneida, New York, and these factories are now operated under the name of the Dodge Steel Pulley Corporation of Oneida, New York, and this corporation is under the exclusive supervision and control of the Dodge Sales & Engineering Company, of Mishawaka, Indiana, through its branch warehouse, district organization and sales agencies established throughout the world. The Dodge Sales & Engineering Company has warehouses and salesrooms in New York, Philadelphia, Boston, Newark, Cincinnati, St. Louis, Atlanta, Pittsburgh, Minneapolis and Dallas, with sales offices in all other leading cities of the Union. The warehouses and offices in Chicago have here been maintained since the inception of the business, and are established at 418 South Clinton street. From the same is controlled an average annual business of four hundred thousand dollars, and the sales manager is Victor Wilmot, who has held this office since 1914 and who has been for eighteen years prior thereto incumbent of the position of credit manager of the Chicago offices. His staff of assistants comprises eighteen men.

Melville W. Mix, president of the Dodge Manufacturing Company, the Dodge Steel Pulley Corporation and the Dodge Sales & Engineering Company, is known as one of the most progressive and influential captains of industry in the United States, and is one of the liberal and public-spirited citizens of Indiana.

REEDY FOUNDRY COMPANY

The history of this representative industrial concern covers a period of more than thirty years and gives record of successful achievement that has resulted in giving the company acknowledged prestige in its assigned field of enterprise. The modern foundry plant is established at 4600-4650 Iowa street.

The Reedy Foundry Company figures as the direct successor of the J. W. Reedy Elevator Manufacturing Company, which was founded in 1884 and duly incorporated under the laws of Illinois, the manufacturing plant of this original corporation having been located at the corner of Wells and Illinois streets. Here a small foundry was equipped specially for the manufacturing of elevator castings, and this branch of the business continued to be one of primary importance for a long term of years. In January, 1905, was effected a reorganization and reincorporation of the business under the present title of the Reedy Foundry Company, and at this juncture the province of operations was amplified and provision made for the conducting of a general foundry business. William H. Reedy, who had become identified with the Reedy Elevator Manufacturing Company in 1879 and who had advanced eventually to the position of president of the company, was the prime factor in reorganizing the business in 1905, and he has since served as president and treasurer of the Reedy Foundry Company, the other officers of the company at the time of the inauguration of the new regime having been Wm. E. Wakefield, vice-president, and Albert N. Eastman, secretary. Both of these principals have since retired from office, and while William H. Reedy continues as president and treasurer of the company the

one other executive officer is his brother, John T. Reedy, who holds the position of secretary.

In 1906 the Reedy Foundry Company purchased four acres of land with frontage on Iowa, Kilpatrick and Walton streets and adjacent to the Chicago Belt Railway, through which was assured the best of transportation facilities for the new and modern foundry plant that was erected on this site. Here the company erected a fireproof building of reinforced cement construction and the same affords a floor space of forty-five thousand square feet. The foundry has one cupola of sixty tons capacity and a second which has a capacity of thirty tons. In the effecting handling of materials the equipment includes three traveling cranes, of twenty, ten and three tons capacity respectively, besides which there is maintained in the yards of the plant a twenty-ton crane or hoist. There have been provided sand binds that will hold a year's supply of moulding sand, and the pattern room is fireproof and damp proof. The company specialized in the production of heavy gray-iron castings and semi-steel castings, the equipment being such that castings weighing as high as twenty tons can be effectively handled. The average run of the foundry is fifty tons a day, and the capacity of the plant is for the handling of ninety tons, the average force of employees numbering one hundred and seventy-five persons. During the past two years (1916-17) the company has had a continuous contract with the United States government for the manufacturing of gray-iron engine parts for submarine vessels. The normal trade of the company extends through the states of the central west and to the establishment has been added a specially equipped shop or department for the repairing and alteration of patterns for the trade. By virtue of the requirements of the class of business handled the company maintains at its plant four core ovens, the same occupying an aggregate floor space of fifteen hundred square feet. This company manufactures all gray-iron castings used by the American Can Company in its punch presses and can-making machinery operated in the western states, and the company manufactures also the frog-fillers and switch stands used by the well known railway-supply house of the Pettibone-Milliken Company, other regular clients likewise being of representative order.

William H. Reedy, president and treasurer of the Reedy Foundry Company, was born at Rock Island, Illinois, on the 10th of September, 1861. He was about ten years old at the time of the family removal to Chicago, in 1872, and here he attended the public schools, the discipline of which he supplemented by a course in the Bryant & Stratton Business College. In 1879, as noted in the preceding review, he became associated with the J. W. Reedy Elevator Manufacturing Company, and he gained a thorough technical knowledge of the foundry business, the general trend of the original industrial enterprise of the elevator manufacturing company, of which he became president, having finally resulted in the expansion of the business to include general foundry operations, Mr. Reedy having been president and treasurer of the Reedy Foundry Company from the time of the adoption of this corporate title, in 1905.

Mr. Reedy is prominently affiliated with the Knights of Columbus. Mr. Reedy gained in earlier years a high reputation as an all-round athlete, and he has the distinction of having been the first amateur of the local baseball clubs



John M^c Law Glenn

of Chicago to throw a curved ball, in 1878, this now important art in connection with the "national game" having then been in its infancy.

John T. Reedy, secretary of the Reedy Foundry Company and brother of the president of this corporation, was born at Rock Island, Illinois, on the 10th of December, 1864, and was eight years of age at the time of the family removal to Chicago, in 1872. Here he availed himself of the advantages of the parochial and public schools, and here he has since gained broad and diversified commercial experience, in connection with leading wholesale houses. He continued his association with the wholesale trade until 1906, when he became actively identified with the Reedy Foundry Company, of which he is the efficient and popular secretary. Mr. Reedy holds membership in the Knights of Columbus.

JOHN MCGAW GLENN

John McGaw Glenn, Secretary, Illinois Manufacturers' Association, born Fort Wayne, Indiana, November 14, 1859; son of John J. and Mary Jane Patterson (McGaw) Glenn.

Attended public schools Monmouth, Illinois; graduated from Monmouth College in June, 1883, with degree of A. M.

Began work in 1883 in a lumber yard at North Henderson, Illinois, same year, became city editor of the Monmouth Atlas, at Monmouth, Illinois, where he remained until 1886, when he came to Chicago to work on the Inter-Ocean as a reporter, where he remained but a short time, going to San Diego, California, as a reporter on the San Diego Union, returning to Chicago same year and resuming his former place on the staff of the Inter-Ocean. In 1887, with Paul Selby as associate, bought an interest in the Illinois State Journal, at Springfield, Illinois, where he remained until early in 1888, in which year he sold his interest in the Illinois State Journal and returned to his first love, the Inter-Ocean. Went over to the Chicago Tribune 1889, and in 1893-4 was the New York correspondent. In the summer of 1894 became political editor of the Tribune. In 1895 went to the Times-Herald, and while reporting the Legislature in 1897 for that paper, was appointed Secretary of the Chicago Civil Service Commission. Was elected Secretary of the Illinois Manufacturers' Association in February, 1898, having resigned as Secretary of the Civil Service Commission. Has been very active in his connection with the Illinois Manufacturers' Association on behalf of the industrial interests of the state and middle West and has worked untiringly at both Washington and Springfield to prevent legislation inimical to the interests of this section of country.

Mr. Glenn served four years in Company H, sixth regiment, Illinois National Guard—from 1882 until 1886.

Clubs: Union League, Mid-Day, Chicago Athletic Association, Hamilton Club, Chicago Trade Press Association, Press Club, Traffic Club, Chicago; Glen View Country, University, Evanston; Illinois Country, Sangamo, Springfield. Member of the First Presbyterian Church of Evanston. Residence, 1131 Forest Avenue, Evanston. Office, 76 West Monroe street, Chicago.

In connection with his work as secretary, Mr. Glenn is the owner and pub-

lisher of "Manufacturers' News," a publication issued in the interest of the industries of the country. It has already made a place for itself among trade papers.

THE SEYMOUR & PECK COMPANY

One of the unique and important industrial enterprises of Chicago is that controlled by the company whose title initiates this paragraph. From a modest inception has been developed a large and prosperous business in the manufacturing of veneer drums for packing purposes, (besides which the facilities of the plant are utilized also for the manufacturing of various other types of wooden containers). The company owns patents on various machines used in the manufacture of shipping drums and other specialties, and also controls patents on the drum themselves, the president of the company being the patentee of certain of the machines and containers. This is the only concern of its kind in Chicago, the average annual business as attained to an aggregate of about two hundred and fifty thousand dollars and the company supplies its high-grade packing drums and boxes to many of the leading commercial and industrial firms and corporations of the western metropolis, including the wholesale grocery houses of Sprague, Warner & Company; Reid, Murdock & Company; Steele, Wedeles & Company, and such other representative concerns as McLaughlin & Company and James B. Clow & Sons. Some of these leading commercial institutions of Chicago have thus given liberal support to the Seymour & Peck Company for fully forty years,—an interval in which the business of the latter corporation has been developed from a small enterprise into one of broad scope and importance and one that proves a definite contribution to the varied and manifold industries centered in Chicago.

The well equipped manufactory of the Seymour & Peck Company, a property owned by the vice-president of the company, as trustee, is situated at West Twentieth place and Sangamon street, and the business dates its virtual inception back to the year 1872, the original control of the same having been vested in the Oconto Lumber Company, of Oconto, Wisconsin, which has long been one of the important concerns identified with the great lumbering industry in the Badger state. Finally the management of the Chicago business was assumed by J. A. Seymour and Franklin G. Peck, and they played a prominent part in the development of the business, which at no time has demanded any special advertising exploitation, even as "good wine needs no bush." In 1897 the Seymour & Peck Company was organized and purchased the well established business, and it was incorporated with a capital stock of seventy-five thousand dollars. The personnel of the original executive corps of the new corporation was as here noted: Edward T. Mason, president; Edward S. Warren, vice-president; Franklin G. Peck, vice-president and manager; Clarke E. Warren, treasurer; and J. Alonzo Seymour, secretary. Upon the death of Mr. Mason, in 1900, Mr. Peck succeeded him in the presidency, and save for this change no alteration has been made in list of officers. In the plant of the company are utilized about sixty thousand square feet of floor space and employment is given to a force of about seventy-five persons, most of whom are skilled mechanics specially expert in their

assigned functions. The company also controls a thoroughly modern veneer mill at Des Arc, Arkansas, the same being equipped with three veneer lathes and its lumber being obtained from available sources in that state, the same being cut to the demanded proportions before being shipped to the factory.

FRANKLIN G. PECK

Franklin Grant Peck, president of the Seymour & Peck Company, of which mention has been made in preceding paragraphs, was born at Bloomington, Illinois, July 28, 1858, and is a son of William C. and Sarah A. (Green) Peck, who removed with their family to Albert Lea, Minnesota, in 1861. At Albert Lea Franklin G. Peck obtained his early education in the public schools, and later he attended a well conducted collegiate preparatory school at Northfield, Minnesota. In 1872 he came to Chicago, and here he continued to be employed as a clerk until 1879, on the 11th of September of which year he assumed the position of bookkeeper in the Chicago office of the Oconto Box and Barrel Company. Six years later he was made manager of the company's Chicago branch, and of this post he continued the incumbent until 1897, when he purchased the company's department for the manufacturing of veneer drums for packing purposes and effected the organization of the present Seymour & Peck Company, of which he has been president since December, 1900, when he succeeded in this office the late Edward T. Mason, as previously noted. In his business career he has significantly exemplified the progressive spirit of Chicago, and his coadjutors likewise have proved enterprising and substantial captains of industry. In politics Mr. Peck gives his allegiance to the Republican party, he holds membership in the Hamilton Club, the La Grange Suburban Club and the Edgewood Golf Club, is an enthusiast in golf and base ball; he served three years as a member of the First Cavalry Regiment of the Illinois National Guard; and he has completed the circle of both the York and Scottish Rites of the Masonic fraternity, in the latter of which he has received the thirty-second degree, besides being affiliated also with the Ancient Arabic Order of the Nobles of the Mystic Shrine and the Order of the Eastern Star. The family home is in the attractive Chicago suburb of LaGrange, and a summer residence is maintained at Platte Lake, Michigan. Caroline (Pillar) Peck, the first wife of Mr. Peck, passed to the life eternal January 23, 1890, and she is survived by three children,—Jessie M., who is the wife of F. B. Tapley; and George H. and Frances L. On the 22d of June, 1895, was solemnized the marriage of Mr. Peck to Miss Laura R. Edelmann, of Dayton, Ohio, and the two children of this union are Alberta L. and Alice L.

EDWARD S. WARREN

The vice-president of the Seymour & Peck Company has held this office since 1900, and prior to that he had served as treasurer of the company from the time of its organization, in 1897, until his son Clarke E. was placed in charge of the fiscal affairs of the corporation, in 1900.

Edward Savage Warren was born at Aurora, Illinois, April 21, 1859, and bears the full patronymic of his father, the late Edward Savage Warren, the maiden name of whose wife was Maria Spalding. Mr. Warren is a brother of the late William Spalding Warren, who became a member of the influential firm of Hulburt, Warren & Company, which became one of the most influential in the grain commission and stock business in Chicago, and which was succeeded by the present firm of Hulburt, Warren & Chandler, of which he continued a member until his death. He was long one of the influential members of the Chicago Board of Trade, of which he served at one time as president, and was one of the representative figures in financial circles in Chicago.

Edward S. Warren, Jr., the immediate subject of this sketch, was about ten years old at the time when the family home was established in Chicago, where he was afforded the advantages of the public schools and where as a youth he took the position of bookkeeper and general office assistant in the employ of Haddock Cox & Company, engaged in the making of abstracts of title. Later he was ten years associated with his brother William S. in the grain trade and after severing this alliance he was not actively identified with business until 1897, when he became one of the organizers of the company of which he is now vice-president and to the upbuilding of whose business he has contributed largely through his initiative and executive ability and progressive policies. He is a Republican in politics, maintains his residence in the suburb of LaGrange and holds membership in the LaGrange Country Club.

On the 29th of September, 1881, Mr. Warren wedded Miss Katharine Clarke, who was born and reared in Chicago, the old home in which she was born having been on the site of the present furniture establishment of A. H. Revell & Company, in the center of the retail district of the city, and she being a representative of one of the old and influential pioneer families of Chicago, her uncle, the late Henry B. Clarke, having owned a farm of one hundred and sixty acres situated in the present vicinity of Michigan avenue and Sixteenth street. The three children of Mr. and Mrs. Warren are Clarke Edward, who is treasurer of the Seymour & Peck Company; Louise, who is the wife of Clark S. Jennison, of New York; and Robert Clarke, who is a student at the University of Illinois. Mr. and Mrs. Warren take due pride in the fact that they have seven grandchildren.

J. ALONZO SEYMOUR

The secretary of the Seymour & Peck Company has been a resident of Chicago since 1866 and is now known and honored as one of the city's veteran business men and public-spirited citizens. He was born at Winfield, New York, February 18, 1845, and is a son of Alonzo and Mary Fletcher (Round) Seymour. He was a child at the time of the family removal to Grand Rapids, Michigan, where he received his early education in the public schools of the pioneer period in the history of Michigan's second city, and he was twenty-one years of age when he came to Chicago, where he became actively associated with the lumber business. In this line of enterprise he later became one of the organizers of the firm of Culver, Savidge & Company, which was succeeded by that

of Throop and Seymour. Like many other representative business men he met and overcame the ordeal of the great Chicago fire of 1871, and in 1885 he became the local agent for the Oconto Box & Barrel Company, of Oconto, Wisconsin. From this alliance was developed the present thriving industrial enterprise of the Seymour & Peck Company, of which adequate description has been given in preceding paragraphs.

In politics Mr. Seymour is found aligned staunchly in the ranks of the Republican party, he holds membership in the Kenwood Club, and he and his wife are members of the Methodist Episcopal church, their home being at 4352 Lake Park avenue, in the beautiful Kenwood district of Chicago.

At Geneva, Illinois, on the 12th of October, 1870, was solemnized the marriage of Mr. Seymour to Miss Jane E. Throop, and they became the parents of three children: Minnie I. is the widow of Edward T. Mason; Harriet L. is deceased; and Charles M. is actively identified with business interests in Chicago.

THE NORTHWESTERN ELECTRIC COMPANY

In the industrial application of electricity this corporation has won assured prestige and stands representative of a successful and well based manufacturing enterprise that is founded on the production of high-grade electrical machinery invented by Samuel H. Martin, the president of the company and Mr. Austin Kimble, formerly with the Kimble Electric Company.

The manufacturing plant of the Northwestern Electric Company is modern in its equipment and general facilities and is located on South Hoyne avenue, with office address at No. 408 on that thoroughfare. The company was organized by Mr. Martin and his associates in the year 1903 and was incorporated under the laws of Illinois, with a capital stock of five thousand dollars. A few months later the capital was increased to twenty-five thousand dollars and operations are now based on a capital stock of one hundred thousand dollars. Those associated with Mr. Martin in the organization of the company were Maurice J. Clark and John Martin, both of whom are still executives of the corporation. The company was formed primarily for dealing in and repairing motors and for the manufacture of the Martin Rotary Converter and synchronous motor invented and patented by Mr. Martin; Mr. Kimble has likewise received patents on other valuable electrical machines and devices, including the "A-K" variable-speed motor and controller. In the factory of the company employment is given to a force of approximately one hundred persons, the major number of whom are highly skilled mechanics. The business of the company for the year 1915 aggregated \$167,000 and that for the year 1916 attained to the notable aggregate of \$239,000, an increase significant of the estimate placed on the superior products. The company's factory is a three-story building, ninety-seven by one hundred and twelve feet and the mechanical equipment and accessories throughout are of the most approved modern type. The company is represented in membership in the Illinois Manufacturers' Association, and the Electrical Credits Association. In New York City branch offices are maintained at 1457 Broadway, and foreign sales agents are R. E. T. Pringle, Ltd., of Toronto, Canada, and the Electric Motor & Dynamo Company of Sidney, Australia.

Samuel H. Martin, president of the Northwestern Electric Company, and known as a man of broad experience in the field of electrical enterprise, as well as a man of distinctive mechanical and inventive ability, came to Chicago in 1893, and here he was engaged in another line of business until 1895, when he accepted a position in the plant of the Gregory Electric Company. Of this position he continued the incumbent until he organized the company of which he is now president.

From literature issued by the company are taken, with slight change, the following pertinent statements, concerning the machines invented by Mr. Martin and manufactured by the Northwestern Electric Company: "Rotary converters have for many years been recognized as the most efficient medium for changing alternating current to direct for any purpose. They have been extensively used in large units but, on account of the difficulty in starting, the development and use of smaller sizes have been retarded, preference being given to motor-generator sets and rectifiers. The Martin rotary converter has all of the advantages of a motor-generator set combined with high efficiency and simplicity in operation. The disadvantages in starting has been entirely overcome in this machine, so that it can be started as easily as an ordinary polyphase induction motor. High voltage in the shunt fields when starting is entirely eliminated by means of a specially constructed damper ring which is introduced between the armature and pole-pieces and acts as a magnetic screen for the armature flux, diverting same through the magnetic circuit on which the shunt fields are placed. The Martin damper ring forms a continuous laminated magnetic circuit from pole to pole, and has alternate slots and squirrel-cage bars on the inside periphery. The riveting or welding of the squirrel-cage bars to the copper end-rings gives this improved converter the starting characteristics of an ordinary induction motor and prevents hunting when once in step under load conditions. The apparent paradox in the construction of the magnetic circuits in this converter is the secret of its success and efficiency. The continuous laminations of the damper ring would seem to short circuit the flux from the field poles, but in reality this is true only when starting up and is necessary to prevent high voltage in the shunt fields. In the slots of the damper ring is placed a small portion of the shunt windings, which prevents magnetic leakage from pole to pole when the rotary falls in step."

The Martin rotary converter has many applications and can be used to obtain direct current for any purpose in an alternating current district. It is specially adaptable for charging of storage batteries, the operating of moving picture arcs and electric cranes, as well as lifting and loading magnets, for arc welding, electrolysis of water for making oxygen and hydrogen gas, for furnishing direct current for use in laboratories, for operating magnetic tools and chucks, and for an endless number of other uses. The Martin synchronous motors are extensively used in the rectifying of high-voltage alternating current, high potential for precipitation and in the manufacture of diastatic products, and the larger sizes are in demand to operate as self-starting power motors on lines where improvement of the power factor is desired. The Martin synchronous motor is as simple to connect and operate as an ordinary induction motor.

Another of the important products of the Northwestern Electric Company is the "A-K" variable-speed motors with controllers having predetermined set

speeds on constant torque load, and these motors, with their various improved accessory devices, likewise have met with large demand, which is constantly increasing. The company is at all times glad to send adequate descriptive literature to those who desire full information concerning the various products.

W. C. RITCHIE & COMPANY

Definite pioneer distinction attaches to this progressive industrial corporation of Chicago, and its business ranks as the second oldest of the kind in the western metropolis,—a fact in which the present principals of the company take merited pride. The business was founded in Chicago more than half a century ago and has continuously held precedence in its field during the long intervening period. The company controls an extensive and well ordered business in the manufacturing of paper boxes, fiber cans and mailing tubes, small set-up paper boxes and fiber cans being given special attention and priority in the productive enterprise and general commercial ramifications.

This substantial industrial enterprise was founded in 1866 by the late William C. Ritchie, who came from Wisconsin to Chicago in that year and who established his modest factory in a building at what was then No. 155 Michigan avenue, between Adams and Monroe streets. With ability and earnestness this honored pioneer manufacturer gave his energies to the development of his business and the same was one of no inconsiderable importance at the time of the great Chicago fire of 1871. Incidental to this historic conflagration Mr. Ritchie, as a matter of course, met with no little financial loss, as his establishment was entirely destroyed, but he entered fully into the determined and courageous spirit that was manifested by the citizens of Chicago in their valiant efforts to rebuild the prostrate city and revive its business activities. The passing years brought normal and satisfactory growth to the business of W. C. Ritchie & Company, and in scope and importance it kept secure its relative priority. In 1891 the manufactory was removed to the corner of Van Buren and Green streets, where the company still maintains quarters for office and principal plant with branch factory at Eighty-ninth street and Baltimore avenue, being of the best modern type in general structure and all details of equipment. An idea of the extensive scale of operations is given when it is stated that in connection with the various departments of its business the company now gives employment to nearly six hundred persons.

Under the original title of W. C. Ritchie & Company the business was incorporated in 1893, and at that time the following executive officers were chosen: William C. Ritchie, president; William E. Ritchie, vice-president; Frederick C. Swett, treasurer; and Thomas L. Smedes, secretary. The founder of the enterprise continued as president of the company until his death, which occurred in the year 1894, and he was one of the venerable pioneer business men of Chicago when he was summoned from the stage of his mortal endeavors,—a strong, noble and loyal citizen who had honored his adopted city by his character and his achievement. The company now bases its operations on a capital stock of one hundred and twenty-five thousand dollars and the personnel of its executive

corps is as here noted: Robert H. Ritchie, president; Thomas W. Ritchie, vice-president; Timothy S. Tredwell, treasurer; and Kenneth H. Beattie, secretary. The company has membership in the Chicago Association of Commerce, the Illinois Manufacturers' Association, the Associated Employers of Illinois; the National Association of Manufacturers, and the Chamber of Commerce of the United States of America.

WILLIAM E. RITCHIE

The late William Edward Ritchie proved a most efficient and valued coadjutor of his father in the developing and conducting of the business of W. C. Ritchie & Company, and after its incorporation he became vice-president of the company. Of this office he continued the incumbent until the death of his father, when he succeeded the latter as president, a position in which he continued his vigorous and resourceful administration until he too passed away, his death having occurred September 25, 1917.

Mr. Ritchie was born at Beloit, Wisconsin, October 24, 1861, a son of William C. and Mary (Field) Ritchie, who established their residence in Chicago in 1866 and who here passed the remainder of their lives. The preceding article gives adequate data concerning the business career of the honored father. In the public schools of Chicago the subject of this brief memoir continued his studies until he had duly profited by the advantages of the Hyde Park high school, and he was about sixteen years of age when, in 1877, he began his practical experience in the paper-box factory of the firm of Ritchie & Duck, of which his father was senior member and the title of which was later changed to W. C. Ritchie & Company. In 1880 William E. took an executive position in the office of the concern, and thereafter he had general supervision of the factory until 1885, when he became a member of the firm. Of his influential connection with the business during the successive stages of progress thereafter assurance is given in the fact that he was president of the corporation at the time of his demise. He was also treasurer of the Randolph Box & Label Company and was known and valued as one of the vital and successful business men and liberal citizens of the city in which virtually his entire life was passed.

The political allegiance of Mr. Ritchie was given to the Republican party, his religious faith was that of the Protestant Episcopal church, of which his widow and children likewise are communicants, and the family home was established in the pleasant suburban town of Hinsdale, where he was a popular member of the Hinsdale Club and the Hinsdale Golf Club.

On the 27th of August, 1890, at St. Andrews, Province of Quebec, Canada, was solemnized the marriage of Mr. Ritchie to Miss Frances I. Beattie, who survives him, as do also three children,—Lyell H., Alice and William E., Jr.

ROBERT H. RITCHIE

Robert H. Ritchie, who succeeded his brother William E. as president of the corporation of W. C. Ritchie & Company, his brother having died September

25, 1917, as noted in the foregoing brief memoir, has been a resident of Chicago from the time of his birth, which here occurred on the 1st of February, 1873, he being the youngest of the three sons of the late William C. and Mary (Field) Ritchie. The early education of Mr. Ritchie was gained in the public schools of the Hyde Park district of Chicago and was supplemented by a course in a local business college. Upon leaving school, in 1891, he became actively associated with the business of his father's firm, and this alliance has since continued, his thorough knowledge of the various details of the business, as coupled with his well matured executive ability, having made him exceptionally well fortified when he was called upon to succeed his brother in the presidency of the company, in the autumn of 1917, as previously noted. He is president also of the United Paper Box Company of America, Inc., at Brooklyn, New York, and in his native city is treasurer of the Randolph Box & Label Company. Mr. Ritchie is a staunch supporter of the cause of the Republican party and he holds membership in the following named and representative organizations: The Union League Club, the South Shore Country Club, the Midlothian Club and the Lake Zurich Golf Club. His marriage to Miss Helen Weidinger, of Chicago, was solemnized December 14, 1912.

THOMAS W. RITCHIE

Thomas W. Ritchie, vice-president of W. C. Ritchie & Company, has, like his brothers, been closely allied with the business from the time of his youth, and in connection therewith is well upholding the high prestige of the family name. Mr. Ritchie was born in Chicago on the 20th of August, 1871, and is the elder of the two surviving sons of the late William C. Ritchie. His public-school discipline was reinforced by a course in business college and of his business career it is necessary only to state that he has been vice-president of W. C. Ritchie & Company from the time of its incorporation, in 1893, and that he has been a resourceful integer in the upbuilding of the now substantial and important industry with which he has been associated continuously from the time he left school. His political faith is that of the Republican party, he is an active member of the Chicago Athletic Association, the Indian Hill Club and the Lake Zurich Golf Club, and his residence is in the beautiful suburban district of Hubbard Woods. January 21, 1902, recorded the marriage of Mr. Ritchie to Anna Stuart Gordon, of Chicago.

THE ACME BOX COMPANY

At this juncture is directed attention to another of the concerns that had a very modest inception and that has grown to be one of importance and secure status under the fostering influences of the western metropolis and under the careful and able management of its president, a man of excellent technical knowledge and splendid initiative and administrative ability. The initial establishment of the

business was at 397 South Canal street and in May, 1915, the company made an important addition to its facilities by purchasing the mill and box factory of the Soper Lumber Company, at 1401 West Twenty-first Place where is afforded an aggregate floor space of thirty thousand square feet with the best of modern machinery and incidental equipment.

This vigorous corporation is engaged in the manufacturing of high-grade wooden boxes for use in connection with various commercial lines, and gives special attention also to the manufacturing of confectioners' starch-boards and supplies. The ramifications of the business have been extended into the most diverse section of the United States and there has been developed also an excellent trade in the Canadian provinces. The annual output has attained to an average aggregate of one hundred and fifty thousand dollars as represented in the trade transactions, and the company bases its operations on a capital stock of twenty thousand dollars. Richard C. McWhorter is the president and general manager of the company; Edmund J. Richmond is vice-president; L. W. Kreugel is secretary; and C. T. Gallandt is treasurer. The company is represented in membership in the Chicago Association of Commerce and the National Association of Box Manufacturers and Association of Credit Men.

The Acme Box Company was organized and incorporated in July, 1888, with a capital stock of four thousand dollars, and the business was initiated on a modest scale, in the rear portion of a building at 297 South Canal street. The personnel of the original official corps was as here noted: Richard C. McWhorter, president and manager; Joseph Roberts, vice-president; David Griffith, secretary; and William Roberts, treasurer. In the earlier stages of its operations the company purchased its lumber supplies from local yards, but with the substantial expansion of the enterprise the policy of purchasing direct from the saw mills was adopted, the same having since been maintained advantageously. In 1897 the company removed to its present location and doubled its output capacity, and by the purchase of the saw mill and box factory of the Soper Company, as previously noted, the facilities and supply resources of the company have more recently been brought up to a high standard. At the beginning of operations was retained a force of only ten employes, and at the present time nearly one hundred persons are employed in the company's factory and offices. In the following article is given more specific mention of the president of the Company.

RICHARD C. McWHORTER

As the dominating figures in the organization of the Acme Box Company, of which he has been president from the beginning, and as the directing spirit in the development and upbuilding of its now large and substantial business, Richard Cox McWhorter is consistently to be designated one of the resourceful and representative business men of Chicago, even as he is a citizen who is insistentlly appreciative of and loyal to his native city.

Mr. McWhorter was born in Chicago on the 21st of April, 1860, and is a son of Roger Alexander McWhorter and Mary (McComb) McWhorter, the lineage



ORIGINAL PLANT, 1865
Chestnut and Pine Streets



CHICAGO VARNISH COMPANY, 1918

on both the agnatic and distaff sides tracing back to staunch Scotch origin. To the public schools of Chicago Mr. McWhorter is indebted for his early educational discipline, which was supplemented by a course in the old-time Jones Business College, in which he was graduated. The story of his advancement is direct and simple and where there are to be found few dramatic episodes or incidents in his career it has been marked by worthy and purposeful application and been crowned by definite success. As a youth Mr. McWhorter served a thorough apprenticeship as a box-maker, and he became a specially skilled artisan in this field of enterprise, so that before initiating his independent career in connection with box manufacturing he had been employed for varying intervals in nearly all of the existant box factories of importance in Chicago. Of his fine service in connection with the company of which he is now president adequate estimate is given in the preceding article.

Mr. McWhorter is affiliated with the Royal Arcanum, the Brotherhood of American Yoemen, and the Brotherhood of St. Andrew, both he and his wife being zealous communicants of the Protestant Methodist Episcopal church and he being a member of the Church Club of Chicago. The family home is at 3327 Carrol avenue in the beautiful suburban town of Berwyn.

On the 2d of October, 1901, was solemnized the marriage of Mr. McWhorter to Miss Helen Augusta Hawkins, of Berwyn, Illinois. They have no children.

THE CHICAGO VARNISH COMPANY

In the industrial crown of Chicago a jewel of no minor significance is the old and important concern whose title appears above. The business of the Chicago Varnish Company dates its foundation back to the year 1865 and thus pioneer honors are not to be denied in the connection. The original headquarters, of proportions consonant with the demands of that period, were on Pine near Chestnut street, and it is interesting to note that in the intervening period of more than half a century the factory of the company has been removed only once, the present large and modern plant, at 2100 Elston avenue, having been occupied since the year 1889. For a number of years the business offices of the company were maintained at the corner of Kinzie and Dearborn streets, and the present administration and office building is one of the noteworthy business structures of the city, the same having been designed by Marshall & Fox, the well known architects, and being, insofar as consistency made possible, an architectural reproduction of historic old Liberty Hall, Philadelphia. The plant of the Chicago Varnish Company occupies five acres of ground and is one of the representative industrial establishments of the western metropolis, with facilities of the most modern type in all departments. For the effective direction of the eastern and export trade a branch office is maintained at 50 Church street, New York city.

The business of the Chicago Varnish Company was conducted under partnership control until 1883, when the company was incorporated under the laws of Illinois, operations at the present time being based on a capital stock of 1,500,000 dollars. The first executive officers of the company were Anson C.

Potwin, Otho H. Morgan and William S. Potwin. Two of these veteran business men of Chicago still continue their connection with the enterprise which has been developed to great volume and much relative importance largely under their effective guidance. Otho H. Morgan, individually mentioned in later paragraphs, is president of the company, and William S. Potwin is its first vice-president. The other officers of the corporation in 1917 are as here noted: James E. Bush, second vice-president; William M. Turner, treasurer; Anson C. Morgan, general manager; and William M. Dressler, secretary.

The Chicago Varnish Company, concededly one of the largest concerns of its kind in the Union, manufactures all grades of varnishes, japans, stains, house paints, paint specialties, etc. The company makes a specialty of the manufacturing of architectural finishes, automobile and carriage finishes, railway finishes, varnishes and colors for manufacturers of wagons, implements, etc., and of a full and unexcelled variety of ready-mixed house paints. The trade of this old and sterling Chicago institution extends into all sections of the United States, as well as into Mexico and the Canadian countries, with a well developed export business in European and South American countries. The company is represented in membership in the following named and representative commercial organizations: Illinois Manufacturers' Association; Paint, Oil & Varnish Club of Chicago; Chicago Association of Credit Men; Chicago Association of Commerce; National Association of Commerce; National Varnish Manufacturers' Association; National Association of Manufacturers; Railway Business Association; and National Agricultural Implement & Vehicle Association.

OTHO H. MORGAN

The honored president of the Chicago Varnish Company has been one of the founders and builders of the extensive business conducted by this representative industrial corporation, as noted in a preceding paragraph, and it is in justice due that in this connection be given a brief review of his career as one of the veteran captains of industry in the western metropolis.

Otho Herron Morgan, a scion of one of the sterling pioneer families of the Hoosier state, was born at Lawrenceburg, the judicial center of Dearborn county, Indiana, on the 11th of August, 1838, and is a son of Elisha and Catharine (Coit) Morgan. His youthful educational discipline was rounded out by an effective course in Williston Seminary, Easthampton, Massachusetts. He was about twenty-three years of age at the inception of the Civil war, and he forthwith gave evidence of his intrinsic loyalty and patriotism by tendering his aid in defense of the Union. In December, 1861, he became second lieutenant in the Seventh Indiana Battery of Light Artillery, with which he proceeded to the front, his entire service having been with this gallant command, in the Army of the Cumberland. He was promoted to a captaincy in April, 1864, and was mustered out of service in December of that year. The history of his battery is virtually a concise record of his military career, which was marked by participation in the many engagements in which his command was involved, including a number of the important battles that marked the progress of the great conflict.



Otho. H. Morgan

In later years Mr. Morgan has vitalized the more gracious memories and association of his activities as a soldier of the Union by means of active and appreciative affiliation with the Grand Army of the Republic.

Soon after the close of the war Mr. Morgan established his residence in Chicago, where he became associated with Anson C. Potwin in establishing the Chicago Varnish Company. Operations were instituted on a modest scale and the development of the enterprise kept pace with the marvelous progress of Chicago, especially after the great Chicago fire of 1871, and it is most gratifying to record that during the long and worthy history of the Chicago Varnish Company Mr. Morgan has continued a dominating figure in the control and direction of its business. Upon the incorporation of the company he became its vice-president, and since 1888 he has been its president. Though he is nearing the age of four score years he is vigorous in mental and physical powers, still gives active attention to business and keeps in touch with modern thought and action, as a broad-minded and loyal citizen. His political allegiance is given to the Republican party, he holds membership in the Union League Club, he has completed the circle of both York and Scottish Rite Masonry, in which latter he has received the thirty-second degree, and both he and his wife have long been active members of the Presbyterian church, their attractive home being in the beautiful suburb of Highland Park.

At Terre Haute, Indiana, on the 19th of January, 1864, was solemnized the marriage of Capt. Morgan to Miss Julia Potwin, and thus their devoted companionship has covered a period of more than half a century. The children of this union are six in number, namely: William P., Anson C., Elisha, Catharine C. (Mrs. Robert C. Day), Helen V. (Mrs. Tom W. Bellhouse), and Julia P. (Mrs. Frank S. North).

BURTON-DIXIE CORPORATION

The name Burton, in the title of this corporation, perpetuates the name of one of the early, honored and influential pioneer families of Chicago, and it is gratifying to note that scions of the third generation are vigorous and progressive captains of industry and loyal citizens who are playing a large part in the productive business activities of the western metropolis. Especially is this true of Oliver M. Burton, who succeeded his honored father as head of the important and extensive manufacturing industry whose title initiates this paragraph. The present headquarters of the Company are at Twenty-first street and South Racine avenue, but at Forty-seventh street and Archer avenue, has been purchased by the corporation, a tract of fourteen acres, upon which is to be erected a large and complete plant of the most modern order, including warehouses of great capacity. Its location is specially eligible, since, through the medium of the Chicago Belt Railroad and other lines, it will command direct transportation facilities on virtually every railroad entering the city.

The extensive business of the company above named was established in 1895 and like innumerable other splendid industrial and commercial enterprises in Chicago, it had a very modest inception. John Burton and his son, Oliver M., were the founders of the enterprise and the original and limited quar-

ters at Fifteenth and Throop streets, continued to be utilized until 1904, when the increasing scope of the enterprise rendered it imperative to obtain more eligible and larger accommodations. In that year removal was made to the four and five story buildings now occupied. In 1898 the business was incorporated under the title of the J. Burton Co., with a capital stock of \$15,000 with John Burton as president and Oliver M. Burton as secretary and treasurer. In the year 1906 Oliver M. Burton formed the Dixie Cotton Felt Mattress Co., and continued to serve both companies as executive head. The name of J. Burton Co., was later changed to the Oliver M. Burton Co., upon the retirement of the revered John Burton, one of its original founders, and November, 1917, was with the Dixie Cotton Felt Mattress Co., merged into the present named corporation.

The consecutive expansion of the enterprise was unmistakably indicated when it is stated that the present capital and surplus of the corporation is materially over one million dollars. In addition to the headquarters buildings occupied at the time of this writing, the company have in use three warehouses in the city, but even with these additional provisions the accommodations are inadequate, so that the completion of the large and modern new plant is looked forward to with satisfaction. A branch plant is maintained in Brooklyn, New York, and branch warehouses are located in Cleveland, Ohio, and Pittsburgh, Pennsylvania.

The personnel of the official corps in 1917 is as here noted: Oliver M. Burton, president and treasurer; T. Burton, vice-president; Oscar D. Wiley, vice-president; George S. Knott, vice-president; Charles F. Pearce, secretary; Charles J. Main, assistant treasurer; and C. F. Pearce, Jr., assistant secretary.

The Burton-Dixie Corporation manufactures a special and superior type of cotton felt for use in mattresses and for the upholstering of furniture, automobiles, carriages, etc., and is the sole manufacturer of the celebrated Dixie Line of Bedding. The Company converts their own tickings and imports in a direct way the different grades of cotton utilized and is a large consumer of Kapok, which is imported direct from Java. The Dixie line of bedding, including the well-known Compartment Mattress, is known the world over. In the various departments of the manufacturing and commercial phases of the business, is retained a corps of about 350 employees.

JOHN BURTON

In connection with the foregoing review of the Company of which he was the original president it is consonant that a special memorial tribute be here paid to the late John Burton, who was one of the pioneer business men and influential and honored business men of Chicago, and who was a member of one of the very early pioneer families of what is now one of the world's greatest metropolitan sections. He was born in or near Chicago in 1836, and at his home in this marvelous modern city he passed the closing years of an earnest, noble and productive life, secure in the high regard of all who knew him. His death occurred in 1910.

John Burton was reared and educated under the conditions and influences of the pioneer era in Northern Illinois and he bore the full patronymic of his father, John Burton, Sr., who was a native of England and who established his residence in Chicago when the future metropolis was little more than a village. He settled on the north side of the river between State street and Dearborn avenue, and he became the owner of the almost immeasurably valuable land between Clark street and Dearborn avenue, and extending from Burton Place (named in his honor) to Lincoln Park. In the early stages of his significantly active and brilliant business career, John Burton, subject of this memoir, was engaged in the operation of a flour mill and in the manufacturing of glucose at Geneva, Kane county, Illinois, and later he was one of the organizers and incorporators of the Chas. Pope Glucose Co., which became a large and important industrial concern. Later he became one of the principals in the Cold Blast Feather Co., of Chicago, of which he was secretary and treasurer, and he also owned and operated several fine farms in Northern Illinois. He, with his son, Oliver M., organized and was the original president, as previously intimated of the J. Burton Co., the immediate predecessor of the Oliver M. Burton Co., which with the Dixie Cotton Felt Mattress Co., was in November, 1917, merged into the Burton-Dixie Corporation. He retired from active business a few years prior to his death. His interests centered in his home and his business, so that he never sought or desired political influence or the honors or emoluments of public office of any kind, though he was emphatically broad-minded, liberal and public spirited in his civic attitude.

As a young man, Mr. Burton married Miss Lucy Elicia Long, a daughter of Robert Long who came from England to America and established his home in Chicago. He had been a prominent lawyer in his native land but retired from active practice within a short time after coming to the United States. Mr. and Mrs. John Burton became the parents of eight children, four sons and four daughters.

OLIVER M. BURTON

The president of the Burton-Dixie Corporation, Oliver Milton Burton, was born at Geneva, Kane county, Illinois, March 18th, 1877, and his early educational advantages were those of the public school and well ordered business colleges. Afterward he and his father started the J. Burton Co., of which he became secretary-treasurer in 1899. Upon the retirement of his father from the presidency in 1907, he became president and treasurer of the company, the title of which was then changed to the Oliver M. Burton Co., and again changed in November, 1917, upon the merger with the Dixie Cotton Felt Mattress Co., and is now known as the Burton-Dixie Corporation. Mr. Burton has continued to be the incumbent of this dual executive office since that date. This company is one of the most extensive and important in the Union as touching the manufacture of cotton felt and cotton felt mattresses and a branch factory maintained in Brooklyn, N. Y., Mr. Burton has literally grown up in the business of which he is now a prominent and influential exponent, and it has been under the effective and progressive management that it has grown to be the

largest of the kind in the United States. Mr. Burton is an active member of the Chicago Association of Commerce and the Chicago Credit Men's Association. In a social way he is identified with a number of representative organizations, including the Chicago Athletic Association, South Shore Country Club, Indian Hill Golf Club and the Union League Club. His political allegiance is given to the republican party and he holds membership in the Presbyterian church, the family home being at 185 East Chestnut street.

On the 20th of October, 1909, was solemnized the marriage of Mr. Burton to Miss Anne J. Tatham, daughter of Robert L. Tatham, a prominent lawyer of Chicago.

Reverting to his specific business activities, it may be further noted that Mr. Burton is chairman in 1917, of the Executive Committee of the National Association of Bedding Manufacturers, and is also of the Executive Committee of the Associated Batting Manufacturers. He also served as chairman of the Advisory Committee of the Mattress and Pillow Industry, co-operating with the Committee on Supplies of the Council of National Defense.

THE RELIANCE ELEVATOR COMPANY

Success finds fertile ground along every avenue of legitimate human endeavor, and healthy ambition will take root regardless of the circumstances of time and place. This has been significantly exemplified in the development and upbuilding of the fine industrial enterprise of the Reliance Elevator Company, the principals in which are the five Anderson brothers, all of whom were born in Sweden, all of whom have shown exceptional mechanical and executive ability and all of whom are associated in the control and management of one of the substantial and important manufacturing and commercial enterprises of Chicago. The brothers have the sturdy characteristics that have made the Scandinavian element one of remarkable value in connection with civic, economic and business activities in our great American republic, and all were young at the time when the family home was established in Chicago. Here they have pressed forward to the goal a large and worthy achievement, as indicated in the splendid advancement made by the Reliance Elevator Company, which was organized in 1905 and incorporated in 1906. Worthy of reproduction in this publication is the following well turned description of this company and its growth, the extracts being taken from a recent number of the Western Trade Journal, with but slight elimination or change of phraseology:

"It is a matter of local pride to call attention to concrete examples of industrial progress, as evidence of the general advance movement which adds to Chicago's prestige as the great central market of America. In the manufacture and installation of electric passenger and freight elevators, the Reliance Elevator Company, 212-216 West Austin avenue, has achieved a remarkable success within the last twelve years. Several times in this period enlarged quarters have become necessary to accommodate the growing industry, and about a year ago (in-1915) the present four-story plant was built at the address above noted. This plant is one of the best of its kind, covering an area sixty-five by one hundred

feet and being equipped with modern machinery and labor-saving appliances. An important addition to the plant is now being projected, consisting of a four-story brick factory addition, which is to be erected on adjoining ground at 218-222 West Austin avenue, at an estimated cost of forty-seven thousand dollars. (N. B. —This new structure was completed and placed in commission in May, 1917.) This new unit will largely increase the company's capacity and its facilities for handling business to the best advantage. The improvement is a good illustration of the company's progressive policy and its determination to keep abreast of the times inefficient service.

"Reliance elevators have acquired a national reputation, being in use in all parts of the United States. Many Chicago buildings are equipped with them, and they give the highest satisfaction wherever installed. The company has always kept clear of so-called trust affiliations, and its products have won their way on superior merit. Safety devices have been perfected which prevent accidents in the operation of elevators. Among these are the interlocking device, adapted to any type of elevator, which prevents the elevator from running when any door is open leading to the hatchway, and the Reliance safety device for steel or wood guide-posts, which is considered the most reliable invention of its kind.

"The business was launched a little over twelve years ago by the five Anderson brothers, in modest quarters on South Dearborn street. A few years later larger quarters were occupied, on South La Salle street, but these premises were soon outgrown. Then the company moved to 316 West Ontario street, securing more space and better facilities. There it remained until the new Austin avenue plant was completed. The record of the Reliance organization is one of sound and healthy growth, and the business has been eminently successful from the outset. For this success great credit is due the management, the officers being men of practical ability and wide experience in mechanical and engineering lines."

In later paragraphs will be found individual mention of the officers of this vigorous and progressive company, but the specific personnel of the executive corps may here be designated: John C. A. Anderson, president; Carl E. Anderson, vice-president; Carl A. Anderson, treasurer; Adolph C. G. Anderson, secretary; and Henry C. Anderson, second vice-president and superintendent. Of the brothers specific mention is made in their respective order of birth, and the appending data effectively supplements the preceding record.

HENRY C. ANDERSON

Like all of his younger brothers the second vice-president of the Reliance Elevator Company claims the fair old city of Stockholm, Sweden, as the place of his nativity, his birth having there occurred January 18, 1870. He is a son of Carl and Wilhelmina Anderson, who came with their six children to America in 1890, and established their home in Chicago. The father had retired after many years of active association with mercantile enterprise in Stockholm and he lived but a few years after the removal to the United States, his death having occurred in Chicago in 1893 and his venerable widow being still a resident of

this city. Of the six children the only daughter is Gertrude, who is now the wife of William Carlstrom, of South Haven, Michigan.

Henry C. Anderson acquired his early education in the public and technical schools of his native city and, like his brothers, has manifested special mechanical talent. He was twenty years of age at the time of the family immigration to America and in Chicago he initiated his active business career as a machinist, a trade which he here continued to follow until 1905, when he became associated with his brothers in the establishing of the Reliance Elevator Company, to the success of which he has contributed in large measure by his technical and administrative ability and with which he has the general supervision of the factory. His political allegiance is given to the Republican party, the cause of which receives also the support of his four brothers, and he is affiliated with the Masonic fraternity.

CARL E. ANDERSON

The vice-president of the Reliance Elevator Company was born January 21, 1871, and received his youthful education in the schools of his native city of Stockholm, Sweden. He was eighteen years old when the family home was established in Chicago, and in the shops of the Crane and the Otis Elevator Companies he gained broad and varied experience in the details of elevator manufacturing. He continued in the employ of the Otis Elevator Company until 1905, when he and his brother, Carl A. Anderson, organized the Reliance Elevator Company. Mr. Anderson is a thorough mechanic, and manages the Service Department. He is a member of the Masonic fraternity.

CARL A. ANDERSON

It is the function of Carl Antonius Anderson, the next younger of the five brothers, to give efficient management to the fiscal affairs of the Reliance Elevator Company, of which he is treasurer. He was born April 28, 1874, made good use of the opportunities afforded him in the schools of Stockholm and was sixteen years old at the time when the family came from Sweden to the United States and established a home in Chicago. He likewise gained broad and practical experience in the mechanical departments of the Crane and the Otis elevator manufactories, and thus was well qualified to become a resourceful factor in the organizing and carrying forward to success the company of which he is now treasurer and manager of the alteration and repair department. Like his older brothers he is an appreciated member of the Masonic fraternity, and a Republican in politics.

JOHN C. A. ANDERSON

The President of the Reliance Elevator Company was born July 18, 1880, and thus was about ten years when the family came from Sweden to Chicago.

Here he attended the public schools and eventually his studies were such as to lead him finally into various departments of architectural work. For a period of years he was employed as Chief Draftsman and Engineer for the American Electric & Telephone Company, and he thereafter became associated with his brothers in the organization and incorporation of the company of which he is now President. Through his vast experience and ability the Reliance Elevator Company owes much of its success. Mr. Anderson, besides being President, takes active charge of the Contracting Department. He is essentially a business man, has had no predilection for political activities, but is loyal and progressive in his civic attitude. He maintains active affiliation with the Masonic fraternity.

ADOLPH C. G. ANDERSON

The youngest of the brothers whose vigor and progressiveness have resulted in the development of the substantial industry of the Reliance Elevator Company, of which he is secretary, Adolph C. G. Anderson, who was born September 26, 1883, was a lad of about seven years when the family home was established in Chicago, where he profited duly by the advantages of the public schools. As a youth he entered the employ of the Western Electric Company, and after two years of service in the great Chicago plant of this corporation he accepted a position with the Henry Newgard Company, but three years later he resigned his post to become a principal in the organization of the Reliance Elevator Company, of which he is the secretary, with secure vantage-place, as one of the representative business men of the younger generation in the western metropolis. He also is affiliated with the Masonic fraternity.

ROOS MANUFACTURING COMPANY

This progressive corporation controls another of the substantial industrial enterprises that has been developed from most modest inception, the business having been founded in 1871, when a small factory, with most modest equipment of machinery, was placed in operation by the late Edward Roos, at 318 South Clinton street. Here he engaged in the manufacturing of cedar chests, wooden curtain poles and other specialties of like order, and under his vigorous and able management the enterprise prospered from year to year and eventually became one of important order. Edward Roos, a man of sterling character and marked business acumen, as well as mechanical skill, was born in Germany and became a resident of Chicago prior to the great fire of 1871, and he established his manufacturing enterprise shortly before that historic conflagration. Finally, to meet the demands of his constantly expanding business, Mr. Roos moved his factory to larger quarters, at the corner of Sixteenth and Fisk streets, and on this site has been developed the present modern and finely equipped manufacturing plant of the Roos Manufacturing Company, which bases its operation on a capital stock of one hundred thousand dollars. Edward Roos having

continued as president of the company from the time of its incorporation until his death, which occurred in 1906. By his own ability and efforts he gained precedence as one of the successful manufacturers and representative business men of Chicago, and as a citizen of sterling worth he commanded the esteem and respect of all who knew him. In the presidency of the company of which he was the founder he was succeeded by his son Otto A., the present incumbent, and the other executive officer of the corporation is L. W. Stackpole, who holds the position of secretary.

The productive plant of the Roos Manufacturing Company includes the large factory buildings at 1051 West Sixteenth street, one of these buildings being of four and the other of three stories, and the warehouse and office of the company is established at 967 West Twentieth street. This factory now gives a large annual output of cedar chests, matting-covered utility boxes, folding draft-screens, wooden curtain poles and fixtures and various other specialties for household use, more particular attention being given to the manufacturing of the cedar chests and the curtain poles. The trade of the company has been extended into the most diverse sections of the United States, as well as into Canada, Mexico and Cuba, while a very appreciable export business has been developed in England, Scotland and Australia. The company gives employment to more than one hundred persons, including a goodly number of skilled artisans, and the concern is represented in membership in the Chicago Association of Commerce, the Illinois Manufacturers' Association and the National Association of Manufacturers.

OTTO A. ROOS

Otto A. Roos, president and treasurer of the Roos Manufacturing Company, of which brief description is given in the preceding paragraphs, was born in Chicago on the 12th of July, 1877, and is a son of Edward and Rosa (Hummel) Roos, the former of whom was the founder of the business of this company and known as one of the successful pioneer manufacturers in Chicago, as noted in the preceding article. After having duly profited by the advantages of the public schools Otto A. Roos began work in his father's factory, and thus he has virtually grown up with the business of which he is now the executive head, he having succeeded to the presidency upon the death of his honored father.

Mr. Roos is unequivocally loyal to his native city, even as he is to be designated as one of its representative business men. He is affiliated with the Masonic fraternity and holds membership in the Hamilton Club.

JOHN E. WILDER

John Emery Wilder has played a conspicuous part in the development and upbuilding of the substantial tanning industry and wholesale leather business in which he is associated with his brother, Thomas E. Mr. Wilder was born at Lan-

caster, Massachusetts, on the 16th of April, 1861, and after having profited by the advantages of the public schools of the old Bay state he there entered the Massachusetts Agricultural College, in which he was graduated as a member of the class of 1882 and with the degree of Bachelor of Science. On the 1st of November of the same year he assumed a clerical position in connection with the leather business conducted in Chicago by the firm of Wilder & Hale, of which his elder brother was the senior member. In the following year he became a salesman for the firm, and in 1886 he was admitted to partnership in the business, the firm of Wilder & Company assuming control of the enterprise in the following year, with Thomas E. and John E. Wilder as the interested principals. Under this title the business was incorporated in 1906, and since that time John E. Wilder has been vice-president of the corporation of Wilder & Company, a director of the J. W. & A. P. Howard Company, engaged in the tanning industry at Corry, Pennsylvania; and a member of the directorate of the National City Bank of Chicago. Mr. Wilder has been active and influential in the affairs of the Illinois Manufacturers' Association, of which he has been president, he has served as secretary and president of the National Association of Tanners.

Mr. Wilder is unwavering in his support of the principles for which the republican party has ever stood sponsor in a basic way, he is a member of the Presbyterian church and he has been specially influential in the work of the Young Men's Christian Association, as he has served as chairman of its state executive committee for Illinois, as well as a director of the local association in the beautiful suburban city of Evanston, where is maintained the family home. Mr. Wilder is a member of the board of trustees of Beloit College, at Beloit, Wisconsin, holds membership in the Union League Club and the Glen View Golf Club.

U. S. BALL BEARING MANUFACTURING COMPANY

Antiquarians agree that the ball was one of the earliest discoveries of man. Stones, it is said, was his first weapon of assault or defense. Yet with all his helplessness he soon cunningly learned that the nearer he approached the spherical form in his selection of stones he found greater ease of manipulation, less physical exertion in propulsion with increased swiftness of flight and confidence in delivery. This the brook and the sea shore were, forsooth, the first arsenals of the primitive warrior and hunter.

The wheel on its axle also comes down to us from antiquity but it remained for the nineteenth century and its boasted enlightenment to permit man's ingenuity to invent the adjustment of ball bearings between wheel hub and axle in elimination of friction to the point of its being practically imperceptible as strikingly illustrated in the revolving gun-turret, the mounted telescope or hinge of the vault door.

No other "invention," it is claimed, has contributed so much to the present day perfection of "Machine" operation as the adoption of ball bearings, either radial or thrust, in the reduction of friction and attendant saving of motive power and wear.

Chicago has, in the plant of the U. S. Ball Bearing Manufacturing Company

the largest exclusive ball bearing factory in the world. The operating company was organized and incorporated under the laws of Illinois, November 19, 1909, and the first officers of the corporation were: Stefan Schneider, president and Carl Rathert, secretary and treasurer. The first factory, small in size and only employing fifteen men was located on West Grand avenue and prosperity smiled upon the enterprise from the very beginning. In 1911 Mr. Axel A. Strom became interested in the company by purchase of a majority of the corporate stock and finding the business in need of much larger manufacturing facilities the plant was removed to a modern three story mill constructed building (now the home of the National Engineering and Tool Works) at Harrison place and Clarence avenue, Oak Park, and the business steadily increased until it required the retention of a force of two hundred and seventy-five skilled workmen.

Again confronted within a few years with the imperative need of larger quarters due to the great demand for Strom ball bearings the present plant was erected and occupied in 1916. The building is of re-inforced concrete, brick and steel construction of one story with serried roof and especially designed to meet the particular needs of the business giving an aggregate of eighty thousand square feet of floor space. The factory now has a daily output of ten thousand bearings requisitioning the services of nine hundred people and the constantly increasing demand for the product has taxed the capacity of the factory and additional space and equipment is being provided.

The company has, ever since the outbreak of the European war, enjoyed the distinction of furnishing the British and French governments with a large part of the ball bearings required by them and since our country has become involved in the struggle more than eighty per cent of the output of the U. S. Ball Bearing Manufacturing Company is now utilized in war equipment and the Strom brand of bearings have met every test required of them whether in aeroplane, ambulance, ordnance, ship or munition factory.

The present officers of the company are Walter H. Strom, president and treasurer; Eugene N. Strom, secretary. The president of the company has full executive supervision of the business and is one of the representative young captains of industry in Chicago, as are also his brothers, who are associated with him in the company.

Mr. Strom exercises influential membership in behalf of the company in the National Manufacturers Association, National Metal Trades Association, Illinois Manufacturers Association, National Automobile Jobbers' Association and other representative organizations of similar order.

AXEL A. STROM

Among the distinguished men of Chicago who have left the impress of their individuality upon the industrial and civic life of the city, none are more worthy of mention in the history of Illinois than the late Axel A. Strom. Vice-president of the great railway supply manufacturing house of Pettibone, Mulliken and Company. His labors not only constituted a potent factor in the manufacturing interests of Chicago, as well as in all other matters tending to the public welfare,



A. A. Thom

but were an inspiring influence, and even though he has passed from the scene of earthly activities, his work remains as a force for good in the community. In his home, in social and in public life he was kind and courteous, and no citizen of Chicago was more respected, or enjoyed the confidence of the people, or more richly deserved the regard in which he was held.

Mr. Strom was born in Overum, Sweden, March 31, 1855, a son of Eric Gustav Strom and Caroline (Wennerberg) Strom. He removed to Chicago with his mother when fourteen years of age, his father having died in Sweden, and thence forward his life and enterprise were blended with the growth of this city. He soon began work in the foundries of N. S. Bouton and Company, and remained with that concern for some years. In 1880 he started a small forge shop with P. A. Godey, at first working at the forge himself. The business increased rapidly, and in 1885 it was incorporated under the name of Strom Manufacturing Company. This business was later incorporated with Pettibone, Mulliken and Company, of which Mr. Strom became vice-president and director, and filled that position until the time of his demise.

Coming to Chicago and entering business life when a lad of fourteen, he grew up with the city during the period of its most marvelous development, and through pluck, perseverance and honorable dealings, he became one of its substantial and most worthy citizens. Besides his connection with the firm of Pettibone, Mulliken and Company, he was also interested in civic affairs, and his progressive spirit was evident in many ways. He was a member of the Board of Education, under Mayor Carter H. Harrison, president of the U. S. Ball Bearing Manufacturing Company, from 1911 until his death, director of the Standard Trust & Saving Bank, and of the Austin State Bank. In the light of later years the record of his early career is most interesting and significant, for never was a man's success due more to his own native ability and less to outward circumstances. Nothing came to him by chance. He worked his way up from the bottom rung of the business ladder by sheer pluck and marked ability, and his achievements were the merited reward of earnest, honest efforts.

A man of unusual public spirit, interested in local affairs and proud of the city in which much of his activities and mature manhood were passed, Mr. Strom was a strong factor in the furtherance of any measure which has for its aim the advancement of the people or the betterment of existing conditions. Of strong convictions regarding right and wrong, he was unfaltering in his opposition to a course which he deemed inimical to the best interests of the country, and was entirely fearless of criticism and public opinion when he believed he was right. During his entire commercial career he maintained a high standard of business ethics, and his love of principle and strength of character brought men to him in the ties of strong friendship. Besides his business activities he was also prominent in social circles, and was identified with many of the leading clubs and societies of the city, among which were the Chicago Athletic Association, Mid-Day, Edgewater, and Westward Ho Golf Club. He was a 32d degree Mason.

On March 17, 1875, Mr. Strom was united in marriage with Miss Carrie Trulsson Savre, a native of Naes, Hallingdahl, Norway, and a daughter of Truls Knudson Savre and Guri (Rauk) Savre. Eight children were born to this union, of whom five are living: Elizabeth A. (Mrs. Alfred W. Kempe), Eugene N., Esther M. (Mrs. Arthur F. Geele), George A., and Walter H. The sons are

all prominent business men of Chicago, and are active factors in the management of large commercial enterprises of the city. Eugene N. is vice-president and director of the Pettibone, Mulliken and Company, and of the U. S. Ball Bearing Manufacturing Company, and also a director of the National Engineering and Tool Works. George A. is president of the National Engineering and Tool Works, and also secretary and director of the U. S. Ball Bearing Manufacturing Company, while Walter H. is president of the U. S. Ball Bearing Manufacturing Company, and vice-president of the National Engineering and Tool Works, and a director of both.

The family home for many years has been at 6039 Sheridan road. It is a hospitable one, where good cheer always abounded, and where Mr. Strom delighted in entertaining his numerous friends. He was devoted to the pleasures of home life, and his happiest moments were always spent at his own fireside. He found pleasure in promoting the welfare of his family, and was a kind and indulgent husband and father. In every relation of life, both at home and in public, were shown the light that comes from justness, generosity, truth, high sense of honor, proper respect for self and a sensitive thoughtfulness for others. In business life he was elert, sagacious and reliable; as a citizen he was honorable, prompt and true to every engagement, and his death, which occurred November 29, 1917, removed from Chicago one of its most valued citizens.

WALTER H. STROM

Walter H. Strom, president and treasurer of the U. S. Ball Bearing Manufacturing Company, is a son of the late Axel A. Strom, whose memoir precedes this paragraph, and he was born in Chicago on the 11th of September, 1890. After the curriculum of the public schools had received due attention on his part he took a collegiate preparatory course at Lawrenceville, New Jersey. Thereafter he completed an effective commercial course and then became associated with his father's manufacturing business. In 1913 he was elected secretary and treasurer of the U. S. Ball Bearing Manufacturing Company and of this position he continued in tenure until the death of his father, in the autumn of 1917, when he succeeded the latter in the office of president of the company. He is a young man of splendid initiative and executive ability and is wisely ordering the affairs of the important industrial organization of which he is the head.

Mr. Strom is a member of the American Society of Automotive Engineers, Chicago Automobile Club, and Detroit Athletic Club.

On August 10, 1911, Mr. Strom was united in marriage to Miss Gladys Marie Wood, daughter of Guilford S. Wood of Oak Park, Illinois, and they reside at 1129 Pratt boulevard. Their children are Walter H. Strom, Jr., and Guilford A. Strom.

NATIONAL ENGINEERING & TOOL WORKS

The substantial industrial enterprise conducted under the above title was established in 1914, and the corporation was formed for the purpose of manu-

facturing special machinery, tools, dies, jigs, gauges, etc. The original plant was one of modest order and was established on William street in Oak Park, the officers of the company at the time of incorporation were: Frank W. Hack, president; Theodore P. Schustek, vice-president; and Walter H. Strom, secretary and treasurer.

The incorporation of the company was effected under the laws of Illinois in 1915, with a capital stock of forty-nine thousand dollars and in a few months the manufacturing operations had grown to such substantial proportions that larger factory quarters were imperatively needed. Confronted by these conditions the company was re-organized in 1916 by the secretary-treasurer, Walter H. Strom, and the new officers under the re-adjustment of the corporate stock, were Axel A. Strom, president; George A. Strom, vice-president and Walter H. Strom, secretary and treasurer, and the company removed its plant to a three story brick building that had been formerly occupied by the United States Ball Bearing Manufacturing Company at Clarence street and Harrison place, Oak Park. Here operations have since been continued with unequivocal success. The arrangement of the factory and its admirable equipment make it perfectly adapted to the requirements of the business, and all these floors are occupied, each with dimensions one hundred and seventy-five feet. Each department is modern in every detail of equipment and in the well ordered establishment is retained an average force of somewhat more than sixty employees.

In the factory of the National Engineering and Tool Works, special attention is given to the manufacturing of high-grade brass containers for ball bearings, besides which the facilities are the best in the department devoted to forge work, grinding and finishing. The plant also has a well established reputation for maximum efficiency in the designing and making of all kinds of jigs, gauges, dies, forming tools, and steel balls.

The National Engineering and Tool Works is a subsidiary of the U. S. Ball Bearing Manufacturing Company, of which Mr. A. A. Strom was the founder and executive head and he gave to the new enterprise the benefit of his wide and varied experience along both technical and commercial lines until his death, which occurred on the 29th of November, 1917, he having died suddenly of heart failure, in New York city, while there on a business trip. The office of the president being thus vacated by his untimely death, he was succeeded in this position by George A. Strom, who is also treasurer of the company; Walter H. Strom, vice-president is also president and treasurer of the U. S. Ball Bearing Manufacturing Company, and Eugene N. Strom, secretary, is also vice-president and general manager of the Pettibone-Mulliken Company.

PETTIBONE MULLIKEN CO.

In 1880 the firm of Pettibone & Mulliken was organized to deal in general railway supplies.

In 1885 the business was incorporated under the laws of the State of Illinois and under the name of Pettibone, Mulliken & Co.

In 1886 the general supply business was sold, and three and one-half acres

of land, comprising the block bounded by Eastman, Dayton and Rees streets, was rented and a shop was built for the manufacture of railway track supplies, the most prominent of which was the Jenne Track Jack.

Up to this time tracks were raised and ballasted by means of long levers, and the introduction of the Jenne Jack reduced the amount of labor required in ballasting, and the Jack became widely known throughout the United States, and was universally used.

In addition to the Jenne Track Jack, the company manufactured Track Drills and the Roller Rail Bender for curving rails.

The business gradually expanded and soon embraced the manufacture of frogs, guard rails, crossings and switch material.

In 1902 the capital stock of the company was increased to \$2,750,000.00.

Thirty acres of ground was purchased at the corner of Cicero avenue and West Division street, and in 1903 a modern plant was built for the manufacture of the company's products.

In 1912 the capital stock of the company was increased to \$10,000,000.00, and incorporated under the laws of the State of New York, under the name of Pettibone Mulliken Co.

The business has steadily grown and the company takes a leading position among manufacturers in this industry.

The present officers are: Alfred H. Mulliken, president and treasurer; Eugene N. Strom, vice president; H. R. Prest, secretary.

EUGENE N. STROM

Eugene N. Strom, vice-president of the Pettibone Mulliken Company, and in charge of the factory production with offices at the plant, is a native of Chicago, born March 13, 1883, the first born son of Axel A. and Carrie (Savre) Strom. Mr. Strom pursued with customary diligence the studies offered in the public and high schools of Chicago and then entered the University of Michigan where he remained during the freshman and sophomore years when he transferred his scholastic allegiance to historic, old college of New Jersey, Princeton University, where President Woodrow Wilson was combating snobbishness in dormitory and on the campus and with his now world known studied directness fighting even then to make Princeton "safe for democracy." Here the student, who was himself, soon destined to assume honors and responsibilities, graduated from the school of engineering as a popular member of the class of 1906, with the earned and conferred degree of **Civil Engineer**.

In February, 1907, Mr. Strom entered the draughting room of the Pettibone Mulliken Company as an employe where he remained a year when he was appointed to design and supervise the construction of a foundry for making soft steel castings and Manganese steel and upon completion of the building he selected and installed the necessary equipment and was then given charge of its operation until 1912, when he succeeded to the position of manager of factory productions of the entire plant. Here he had frequent opportunity to bring into play some of the technical knowledge gained in the lecture room, and in this posi-

tion he acquitted himself with credit and seasoned his inherited and acquired abilities as a manufacturer and administrator to the extent that he was elected vice-president of the company as the worthy successor of his distinguished father whose life was suddenly and prematurely terminated by an attack of heart failure, November 29, 1917, a tribute to whose work and worth as a manufacturer, financier and citizen is found elsewhere in these volumes in connection with the U. S. Ball Bearing Manufacturing Company, of which he was the president and directing genius until his lamented death.

Mr. Strom, consistent with his multifarious duties retains his relationship as an alumnus of Princeton and also holds membership in the Chicago Athletic Association. He daily seeks required recreation in automobiling and when season offers and business cares relent, he is not adverse to the relaxation of a fishing trip.

October 24, 1908, witnessed his marriage to Miss Meta Fiedler, at the residence of the bride's parents in Chicago and they make their home at 5828 Kenmore avenue, in the beautiful Edgewater Beach section of the North Shore.

THE CULLMAN WHEEL COMPANY

Under this corporate title is conducted a representative industrial enterprise that, like many others, has been developed from almost insignificant proportions to large and substantial volume, under the benignant fostering influence of Chicago. The business was founded in 1893 and operations were initiated with limited capital, the original factory having been a small establishment located at 554 Larrabee street. Those concerned in projecting the new industry were Philip Cullman and his two sons, Otto and Philip, Jr., the honored father having continued his connection with the business until his death. The new factory was established measureably as an experiment, but such was the success that attended the enterprise that the principals in the concern eventually found it necessary to secure more ample quarters. In 1903 was purchased a portion of the site now occupied by the company's modern industrial plant, and by subsequent purchase the land area has since been increased until it is now one hundred and fifty by one hundred and twenty-five feet in dimensions, improved with a modern industrial building of brick construction and three stories in height. The company was incorporated under the present title in the year 1904, and operations are now based on a capital stock of fifteen thousand dollars. Otto Cullman is president of the corporation and his sister, Lissette Cullman, is secretary and treasurer. In the well equipped factory attention is given principally to the manufacturing of the best grade of sprocket wheels of varied types, and differentials constitute another phase of the manufacturing, the trade of the concern being large confined to the United States, with an appreciable demand for the products of the factory now developed through the Canadian provinces. The business of the company for the year 1917 will show an aggregate of about four hundred thousand dollars, and this indicates beyond peradventure the remarkable success that has attended an industry that had a most modest inception. Efficiency in service and administration has conserved this admirable result, and the Cullman Wheel Company constitutes a valuable integer in the commercial supremacy of the western

metropolis. The modern manufacturing plant of this company is situated at 1344-1354 Altgeld street.

OTTO CULLMAN

Otto Cullman, president of the Cullman Wheel Company, is a business man of distinctive acumen and a citizen who has made a close and exhaustive study of governmental and economic questions and problems. He is a stalwart advocate of the single-tax theory and policy and is admirably fortified for defending his convictions relative to the same. Mr. Cullman was born in the town of Gerach, Germany, on the 19th of August, 1867, there he received his early education. He was sixteen years of age at the time of the family immigration to America and the home was established in Chicago, where he supplemented his education by attending the public schools. He had gained a comparatively good use of the English language, both in speaking and writing, before he left his native land, and he soon mastered the language after the demand for its use had become insistent, incidental to his assimilation of American ideals and customs. After leaving school Mr. Cullman was employed several years in a retail grocery, and he then became a salesman for the "Salvator" mineral water produced by springs at Green Bay, Wisconsin. His activities in this line gave him considerable spare time, and he thus amplified his province of productiveness by establishing a bicycle repair business. In this connection he soon discerned opportunities for the **improving of the then popular vehicle**, the result being that he invented and obtained a patent on an improved type of bicycle hub, to which he applied the name of the Cullman tubular hub. The new device promised to be successful in practical use and Mr. Cullman organized a company to manufacture the same, half of the stock in the new concern being held by him. The new venture failed of success, however, but later Mr. Cullman invented an improved bicycle crankshaft that was utilized for a number of years by the Monarch Bicycle Company, which applied the device to all their high-grade bicycles having purchased the patent from Mr. Cullman. With the decadence of the popularity of the bicycle Mr. Cullman turned his attention to the manufacturing of sprockets, and effected the organization of the Cullman Wheel Company, which has become a leading exponent of this special phase of industrial enterprise and of which he has been the executive head since the incorporation of the company, the factory now giving employment to an average force of about one hundred operatives.

Mr. Cullman is president of the Chicago Single Tax Club, a position of which he has been the incumbent since 1911. On the subject of the single-tax policy he has written many interesting articles that have been published in daily papers and other vehicles, and he is known as one of the thoroughly fortified advocates of the theories so ably presented along this line by the late Henry George. His published articles have gained to the cause many sincere converts, and his appeal is directly and specifically made to men of thought and action. Mr. Cullman himself began to study the vital question of single tax and to be impressed with its legitimacy at the time of the great coal strike in Pennsylvania. He was incidentally listening to a conversation between two men, one maintaining that

the Elgin watch corporation had a monopoly in the watch business, and the other person claiming that there never can be a monopoly on anything produced by man unless there can be gained a control of the source of supply of the raw material. Thus it is that a control of the anthracite coal product is gained only by controlling the land containing the coal deposits. Incidental to the raising of taxes for the prosecution of the great war in which the United States has become involved, Mr. Cullman has recently, through the medium of display exploitation in various periodicals and newspapers, made a remarkable presentation of the principle of taxing land values only. He draws a parallel between the method of placing the tax burden on manufacturers, merchants and consumers, and that of placing the same on land values, maintaining that by the latter will be gained the following results: Simplification of taxation, reduction of the cost of living, the forcing of millions of acres of idle land into use, stimulation of production, and the causing of the taxation to fall on unearned values. In this connection may consistently be perpetuated an article that appeared in the *Manufacturers' News* of June 21, 1917:

"Idle farm land—there are 400,346,575 acres of it in this country—is the cause of the high prices for food stuff in this country, in the belief of Otto Cullman, president of the Cullman Wheel Company, of Chicago, and well known as a single-taxer. 'The food problem is being simplified in England,' says Mr. Cullman, 'because taxes are laid on unused land there and heavy surtaxes will force their use or their sale. Lord Northeliff believes that three million additional acres of land will be devoted to the production of wheat and other grain in Great Britain this year and that as a result there will be a little shortage of food. If two billion dollars will be laid on the land values in this country there will be no need to tax the manufacturing and other industries out of proportion to their gains, and the idle lands will become productive. The cost of living would be reduced materially and there would be employment, at good wages, for everybody.' "

Mr. Cullman, as may be inferred, is signally loyal and public-spirited in his civic attitude, and in a social way he is identified with a number of representative local organizations, including the Chicago Press Club and the City Club. He is thoroughly en rapport with outdoor sports, finds recreation in the use of the automobile and has somewhat of the proclivities of a "fan" in connection with amateur base ball. In 1903 was solemnized his marriage to Miss Augusta Achenbach, and they reside at 5400 Wayne avenue.

SEFTON MANUFACTURING CORPORATION

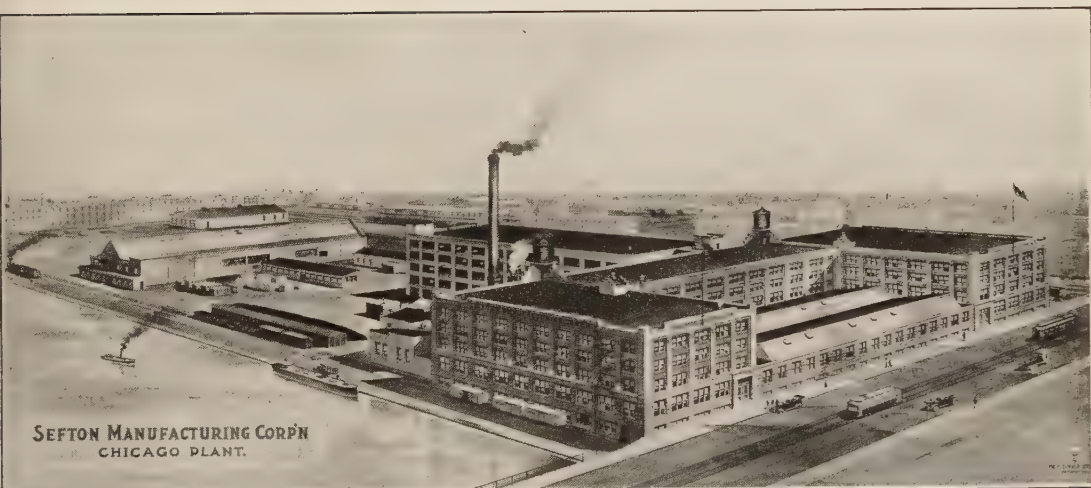
Of direct and insistent relevancy to the industrial and general commercial history of the great western metropolis is the record of advancement made by the progressive corporation whose title initiates this paragraph, and in its special province of productive industry it holds front rank among similar concerns in the United States. With large and well ordered factories in Chicago, in Anderson, Indiana, and in Brooklyn, New York, the corporation has the best of modern facilities for the production on an extensive scale of corrugated fiber

board boxes used in shipping food products, confectionery, tobacco, medicines, soaps, cereals, cleaning compounds, cooking utensils, shoes, glassware, lanterns, light hardware, clothing, millinery, flowers, etc. The proved superiority of the various types of containers thus manufactured has proved the best medium for advertising the products, and the fiber board boxes are made specially available for the shipping of food products,—in their original packages of paper, glass or tins. Prominent among the important commodities now being extensively shipped in Sefton folding paper cartons and boxes may be mentioned the following: Butter and oleomargarine, meat products, tobacco, soap, medicine and chemicals, cereals, coffee, tea, spices, dried fruits, extracts, flour, hardware, gloves, soap-powder, salt, toothpicks, confections, clothing, millinery, etc. The corporation manufactures also sanitary paper pails used for ice cream, delicatessen products, and oysters. Of the concern the following pertinent statement has been given: "The Sefton Manufacturing Corporation produces a staple line of goods which stand in the front rank with those of its competitors, and its sales are constantly expanding in scope and ramifications, as clearly demonstrated in the successive annual reports of business transacted."

A succinct record of the inception and growth of the business conducted by the Sefton Manufacturing Corporation may consistently be given at this juncture. Late in the year 1888 was effected the organization of the J. W. Sefton Manufacturing Company, which initiated manufacturing operations at Anderson, Indiana. In July, 1891, as a matter of commercial expediency and for the purpose of facilitating distribution of products, the company extended its business by establishing also a factory in Chicago, and the real estate and buildings of both the Chicago and Anderson productive plants are at the present time owned by the corporation in fee simple. In 1911 a branch factory and distributing plant were established in the city of Brooklyn, New York, where headquarters are maintained in the Bush Terminal building, under a favorable lease covering a long period. The buildings of the corporation in Chicago are essentially modern in construction and mechanical equipment, and the machinery and accessories of all three plants are constantly maintained in first-class condition, while the respective plants are favorably situated in the matter of controlling excellent shipping facilities.

In establishing headquarters in Chicago, in 1891, as noted, the J. W. Sefton Manufacturing Company here purchased the plant of the Chicago Manila Paper Company, the property having been acquired from Oliver H. Hicks, who took in partial payment a substantial block of the company's stock and who is at the present time president of the Sefton Manufacturing Corporation, his residence being at Redlands, California. The first establishment of the company in Chicago was at 75-77 Lake street, in a building adjoining the old Tremont House, and the lofts there occupied gave an aggregate floor space of about six thousand square feet. In 1892 removal was made to the corner of Union and Randolph streets, where requisition had been made for about eighteen thousand square feet of floor space, and in 1895 a removal to the Koestner building, at 241 South Jefferson street, involved the use of a floor area of thirty thousand square feet, which was eventually increased to one hundred thousand square feet.

In 1900 the corporate title was changed to the Sefton Manufacturing Company, and this was retained until December 15, 1916, when the assets and various



SEFTON MANUFACTURING CORPORATION

properties of the latter company were acquired by the present Sefton Manufacturing Corporation, which had been incorporated under the laws of the state of New York on the 8th of the same month. In 1906 the Chicago plant was removed to its present location, at 1301 West Thirty-fifth street, where is utilized a ground area of five and one-half acres, and the modern buildings gave a floor space of seven acres. The plant has dockage of more than six hundred feet on the south branch of the Chicago river and railway track capacity sufficient to accommodate twenty cars. The plant at Anderson, Indiana, is established on a tract of eleven acres, and the factory has a floor space of six acres. In the Brooklyn headquarters the corporation utilizes two and one-half acres of floor space, and each of the three establishments has definitely adequate shipping facilities.

In the Chicago plant both steam and electric power is utilized, and with the general expansion of the business the factory has been enlarged from time to time.

The officers of the company are J. W. Sefton, Jr., chairman Board of Directors; Oliver H. Hicks, president; J. E. Clenny, vice-president and treasurer; F. A. Funkhouser, vice president; Wm. J. Evans, secretary and general manager; F. M. Durbin, assistant general manager; George C. Hicks, credit manager. These officers also comprise the directorate of the company.

JAMES E. CLENNY

In the foregoing context is given brief description of the Sefton Manufacturing Corporation, one of the vital industrial concerns of Chicago, and in the connection it is but consonant that recognition be accorded also to James Edison Clenny, who is vice-president of the corporation and treasurer of the business.

Mr. Clenny was born on a farm near Lynn, Randolph county, Indiana, on the 18th of June, 1854, and is a son of John W. and Deborah (Banks) Clenny. In the public school of his native state he continued his studies until he had completed a course in the high school at Winchester, and this discipline was supplemented by his attending a business college in the city of Dayton, Ohio. At the age of seventeen years Mr. Clenny began teaching in the district schools, and he continued his active association with the pedagogic profession until he had attained to his legal majority. For three years thereafter he wrestled vigorously with the problems and labors incidental to farm enterprise, and it was after this experience that he attended, for sixteen weeks, the commercial college at Dayton, Ohio. On the 13th of May, 1879, he obtained the position of bookkeeper for the firm of Aulabaugh, Crume & Company, at Dayton, Ohio, his initial salary being twenty-five dollars a month. With this concern and its successor, the Crume & Sefton Manufacturing Company, he continued his alliance until November 1, 1888, when he sold his interest as did also J. W. Sefton with above company and Mr. Sefton and Mr. Clenny effected the organization of the J. W. Sefton Manufacturing Company on November 8, 1888, an Indiana corporation of which J. W. Sefton became president and J. E. Clenny vice-president and treasurer. In the following year he was made general manager of the company, and he retained this office, together with that of treasurer, after the

company had established a factory in Chicago, as noted in the preceding article. He retained the dual office after the corporate title had been changed to the Sefton Manufacturing Company and when the business was acquired by the present Sefton Manufacturing Corporation, in December, 1916, Mr. Clenny was elected vice-president and treasurer of the new corporation, besides retaining the functions of general manager also until February 28, 1918, when William J. Evans, Jr., secretary of the corporation, assumed also the position of general manager.

For several years Mr. Clenny was active in the affairs of the Chicago Association of Commerce, in which he served one year as a member of the executive committee. He has gained secure vantage-place as one of the progressive and vigorous business men of Chicago and was a director of the Monroe National Bank until it was absorbed by the Central Trust Company. He is at the present time a member of the directorate of the Imperial Brass Manufacturing Company and has other important commercial and industrial interests. Mr. Clenny holds membership in the Union League Club, the Chicago Athletic Association, the Press Club, the Midlothian Country Club and the Chicago Automobile Club. He is prominently identified with the Masonic fraternity, in which he has received the thirty-second degree of the Ancient Accepted Scottish Rite, his various Masonic affiliations being here noted: Garden City Lodge, No. 141, Ancient Free & Accepted Masons; LaFayette Chapter, No. 2, Royal Arch Masons; Palestine Council, No. 66, Royal & Select Masters; Chevalier Bayard Commandery, No. 52, Knights Templar; Oriental Consistory, Sublime Princes of the Royal Secret; and Medinah Temple, Ancient Accepted Order of the Nobles of the Mystic Shrine.

NELSON L. BUCK

One of the native sons of Chicago who has exemplified in a significant way its progressive spirit and indomitable vigor, Nelson Leroy Buck is consistently to be designated as one of the representative business men of the younger generation in the western metropolis. His father was a pioneer in the commercial and manufacturing phases of the great chewing-gum industry of the United States, and he himself has worked his way to a position of special prominence and influence in connection with this line of enterprise, as shown by the fact that he is now the general manager of the extensive factories of the William Wrigley, Jr., Company, the largest and most important concern of its kind in the Union, with factories not only in Chicago and New York city, but also in the cities of Toronto and London, Canada, and Melbourne, Australia. In these factories is retained a corps of about two thousand employes, and Mr. Buck maintains a direct supervision of the operations of all of the factories, with headquarters in Chicago, from which point he makes regular quarterly visits to all of the other factories save the one in Australia. He is a director of the William Wrigley, Jr., Company, Limited, as is he also of the James T. Downey Company and the Central Manufacturing District Bank, of Chicago, and he is also vice-president of the Zeno Manufacturing Company. Self-reliance, resourcefulness and resolute purpose have marked each progressive stage of his career and he has achieved



J E Cleary

success worthy of the name, with secure vantage-ground as one of the alert and representative young business men of his native city.

Mr. Buck was born in Chicago on the 2d of December, 1882, and is a son of Orlando J. and Lillian B. (Brewer) Buck, who still maintain their home in this city, the father having been formerly identified prominently with the chewing-gum industry but being now retired from active business. After having duly profited by the advantages of the public schools Nelson L. Buck entered the great University of Chicago, and in this institution he was graduated in 1904, with the degree of Bachelor of Science. After leaving the university Mr. Buck was for two years in the employ of the Zeno Manufacturing Company, of which he is now vice-president, and at the expiration of the interval noted he became purchasing agent for the William Wrigley, Jr., Company, a post of which he continued the incumbent until 1908. Early in 1909 he was promoted to the position of assistant superintendent of the company, and his efficient activities in this office continued until the 1st of January, 1911, when he was advanced to that of superintendent. His initiative and administrative ability came into effective play in this connection and the scope of his executive influence was consistently expanded when, in 1914, he was appointed general superintendent of the company's factories, the next year recording his still further advancement to his present important office, that of general manager of all of the factories of the company.

Mr. Buck is a well poised and enterprising young man of affairs, liberal and loyal in his civic attitude, and a popular factor in the business and social circles of his native city. His political allegiance is given to the Republican party, and he holds membership in such representative organizations as the University Club of Chicago, the Illinois Athletic Association, the South Shore and the Beverly Country Clubs, the Wausaukee Club, the Central Manufacturing District Club, besides being affiliated with the Delta Tau Delta college fraternity. Has served as a member on the board of governors of the Beverly Country Club.

On the 13th of March, 1909, was solemnized the marriage of Mr. Buck to Miss Rena Hooper, of Chicago, and they have three children,—Frances Lillian, Rena Elizabeth, and Caroline Hooper.

MCNEIL & HIGGINS COMPANY

In the year following that of the ever memorable Chicago fire of 1871 there came to the city the vital and courageous spirit that was destined to overcome disaster and disruption and usher in an era of remarkable and virtually unprecedented progress along civic, commercial and industrial lines, and among those who in that year became closely identified with this great phase of recrudescence and advancement that foreshadowed the upbuilding of the present great metropolis of the west were the vigorous and far-sighted men who became at that time the founders of the now extensive and representative wholesale grocery business of the McNeil & Higgins Company. The original firm and its succeeding corporate organization have kept pace with the march of advancement during the long intervening years and the company now maintains status as

one of the most important in the wholesale grocery trade centered in Chicago. The McNeil brothers, Malcolm and John, had previously been successfully established in the general merchandise business at Elgin, Illinois, and after the devastation of Chicago by the great fire of 1871 they determined to transfer their base of operations to the prostrate city, in which they discerned broader opportunities. In 1872, therefore, they came to Chicago and here they formed a partnership with Charles Higgins, who had been a member of the wholesale grocery firm of Mead & Higgins, and who had lost all of his property in the great fire. Appreciative of the sterling character and the fortifying experience of Mr. Higgins, the McNeil brothers gave to him a working interest in the new firm that at this time initiated its wholesale grocery business, the original quarters of the concern having been at the corner of Michigan avenue and South Water street. In 1875 the expanding business led to the securing of large and more eligible quarters, at 11-13 Lake street, where the enterprise was successfully continued until 1897, when removal was made to more commodious headquarters at 19-25 Market street.

Concerning the cumulative tendency ever manifest in the history of this important commercial house the following pertinent statements have been written: "By close attention to business, upright and honorable dealing with all customers, selling only the best goods and that on as close a margin as possible, the business increased from year to year, and finally, as a matter of commercial expediency, the partners decided to incorporate the business under the laws of the state, with the result that in 1888 the present McNeil & Higgins Company was organized and incorporated, with a capital stock of five hundred thousand dollars, all paid in. In the early '70s the trade of the concern was almost entirely local, but time has expanded its field of operations until to-day it controls a large volume of business throughout the entire west and northwest, its extreme limits of trade being difficult to define, because of the constantly increased ramifications of the business." In addition to handling all lines of staple and fancy groceries and general food products, the company now controls a substantial trade in the handling of staple brands of its own manufacture, and such special brands as the "None Such," "Glenora," "Holly" and "Blossom" have met with unequivocal popular favor and insured materially to the reputation of the house. An idea of the broad scope of the business is conveyed by the statement that in 1917 the company retains in its employ about one hundred traveling salesmen, and that in the house itself a corps of more than three hundred clerks, office executives and other assistants is employed. In the entire history of the McNeil & Higgins Company the policy has been one of advancement and expansion, and this spirit dominates the entire organization at the present time.

The new home of the McNeil & Higgins Company was completed and occupied by them in May, 1917. The building, a modern structure of eight stories with basement, covers a tract of ground 400 x 100 feet located at No. 251-316 East Grand avenue, and was erected at a cost of about \$400,000. The plant is served by about 800 feet of railroad trackage so arranged as to permit the loading or unloading of cars either directly into or from the warehouse, or to or from wagons, as may be desired, thereby eliminating the unnecessary handling of merchandise intended for re-shipment.

From the receiving and shipping rooms, connection is made with the Illinois

Tunnel Company's system of underground transportation whereby direct connection is made with the various freight houses of the city and railroad receipts are obtained by the company in its own building for all shipments leaving the city.

In the construction and arrangement of the new and modern plant, no expense was spared to make it the very best. The requirements of trade and commerce have been skillfully blended with the refinements of art and science, giving the McNeil & Higgins Company one of the most modern, thoroughly equipped, up-to-the-minute, wholesale grocery plants in the United States.

The business methods of the company are also in keeping with modern requirements and progress. Much thought and attention are given to the production of food products of a superior quality and their preparation requires the service of skilled experts in the packing and preserving art, while careful study of climate, soil and season in growing orchard, field and garden products, together with rigid selection and grading of fruits and vegetables has enabled the company to maintain a high standard of excellence and uniform quality in its private brands.

The officers of the company that has attained a commanding position in Chicago's commercial activity, are: Malcolm McNeil, president; John McNeil, vice-president; Oscar McGlasson, secretary; J. Leo McNeil, treasurer.

M. H. FAIRCHILD & BROTHER

Under this corporate title is conducted a large and substantial wholesale and jobbing business in the manufacturing of soaps, washing powders and other cleansing preparations, and the well equipped laboratories and factory of the concern are established in a building at Nos. 6 and 8 West Austin avenue. From a small enterprise founded on very limited capital has been developed a business that extends into the most diverse parts of the Union and that has been built up through the ability, sagacity and progressive policies of the interested principals in the original firm, Meredith H. and Emil L. Fairchild, the former of whom is president of the present corporation and the latter its vice-president and secretary. In the year 1889 these two brothers, young men of insistent ambition and well justified self-confidence, began business in small quarters at what was then known as 118 Michigan street, and that is now 62 West Austin avenue, under the new system of street nomenclature in Chicago. The brothers had established such reputation that they had no difficulty in obtaining ample commercial credit and thus to push forward their new enterprise with vigor. It is pleasing to note that the company that was the first to extend to them such credit has been continuously their patrons from the time they began business. Gratifying success attended the aggressive efforts of the brothers, their business rapidly increased in scope and importance and finally they purchased and removed to their present building, at 6 and 8 West Austin avenue, the structure being fifty by one hundred feet in dimensions and seven stories in height. All of the large floor space of the building is utilized by the company and here steady employment is given to a force of sixty persons. In the early stages of development the two brothers

applied themselves unremittingly, often working sixteen hours consecutively and holding no task beneath their dignity, their force of employes at that time having been less than six in number. In 1910 change was made in the firm's specific organization, as a matter of commercial expediency, since it was in that year that the business was incorporated, under the original firm title and with a capital stock of \$50,000. This is a close corporation and the two brothers are its active executive officers, as noted previously in this context.

In addition to controlling a large local trade the company has extended its business from coast to coast, and branch offices are maintained in New York city and Boston. The products of the company's essentially modern plant are manufactured under special contracts to a large extent, and under these provisions the private brands or the names of patrons are utilized on the various packages and products. From a small inception the business has been developed into one of the largest of its kind in the United States, and this fact bears its own significance as attesting to the energy, progressiveness and correct methods of the Fairchild brothers. The company is represented in membership in the Chicago Association of Commerce and its principals are known as loyal and progressive business men who take lively interest in all things touching the welfare and advancement of the western metropolis.

MEREDITH H. FAIRCHILD

The president of the corporation whose history has been outlined in preceding paragraphs, was born at Flushing, Long Island, New York, on the 27th of November, 1872, and is a son of Rev. Elijah S. and Louisa (Leavitt) Fairchild, who have for many years maintained their home in Chicago. The father was born in the state of New Jersey, in 1827, and gave many years of active and devoted service as a clergyman of the Presbyterian church. In 1888 Rev. Elijah S. Fairchild came with his family to Chicago, and here he continued in active work of the ministry until advanced age prompted his retirement. Though the year 1917 records his attainment of the patriarchal age of ninety years, he retains splendid command of his mental and physical powers and is in the best of health. In the public schools of his native place Meredith Howland Fairchild acquired his early education, and in a subsequent course in the Flushing Institute he specialized in chemistry. He was about sixteen years of age at the time of the family removal to Chicago, and in the auditing department of the great mercantile house of Marshall Field & Company he gained his initial business experience. Eight months later he resigned his position to begin his independent business career, and it was at this juncture in his career that he laid the foundation for the now extensive manufacturing and commercial enterprise controlled by the company of which he is president. Incidentally it may be noted that the soaps and other cleansing preparations manufactured by M. H. Fairchild & Brother are made from special formulas that are copyrighted by the company, all products being manufactured from the raw materials. The output of the factory is sold to large consumers only, such as railroad companies, wholesale grocers, mail-order houses, etc., and contracts frequently are for train-load lots. In politics Mr.

Fairchild gives his allegiance to the republican party, as does also his brother, and both hold membership, with their families, in the Presbyterian church.

On the 12th of January, 1911, was solemnized the marriage of Mr. Fairchild to Miss Maude Rathray, who was born and reared in Chicago, and they have one son, Meredith Howland, Jr.

EMIL L. FAIRCHILD

The able coadjutor of his brother in the development and upbuilding of the substantial business of M. H. Fairchild & Brother, he whose name appears above is vice-president and secretary of the company, as previously noted. He was born at Flushing, Long Island, on the 15th of July, 1881, and was a lad of about seven years at the time of the family removal to Chicago, where he attended the public schools and where he began his independent business career as the associate of his brother in the firm of M. H. Fairchild & Brother, which was later incorporated, as stated in the foregoing sketch of the company. He coincides with his brother in political and religious views and in the time-honored Masonic fraternity he has received the thirty-second degree of the Ancient Accepted Scottish Rite.

In 1902 Mr. Fairchild wedded Miss Martha C. Barrett, of Chicago, and they have three children, Donald, Gordon and Jane.

THE HARMONY COMPANY

Industrial Chicago is especially distinguished for achievement on a large scale, and in the western metropolis are to be found many manufacturing and commercial concerns that in scope and importance of operations are unexcelled by any other institutions of like character in any part of the world. In the manufacturing of musical instruments the Harmony Company is specially notable as conducting the largest exclusive manufacturing business in the production of mandolins and guitars in the world, and this prestige has been won through progressive, legitimate and well ordered directing policies, the while the products of the great factory are recognized as being of the highest standard.

The Harmony Company was organized in 1892 and was forthwith incorporated under the laws of Illinois, with a capital stock of twenty-five thousand dollars and with the following named officers: William J. F. Schultz, president; Charles Richter, vice-president; Frederick Retschlag, secretary; and Frederick H. Blank, treasurer. The personnel of the executive corps remains the same at the present time, save Paul Schultz is now secretary of the company, and these officers, with the addition of Carl H. Richter, constitute the directorate of the corporation. The original quarters occupied by the company were on the top floor of the Edison manufacturing building at the corner of Washington and Market streets, where only two rooms were utilized. Here operations were initiated on a very modest scale, and the business so substantially increased that it soon became

essential to obtain more commodious quarters. In the spring of 1892 removal was made to the corner of Green street and Chicago avenue, where was effected the lease of a small building, all of which was placed in requisition. Here the business was continued three years, when larger quarters were secured in a building at the corner of Ann and Lake streets. Continued expansion of the enterprise later led to the removal to the corner of Homer and Campbell streets, but the greater floor space here afforded finally proved eventually inadequate, with the result that the next change of quarters was in the utilization of appreciably enlarged floor space in a building at 639 Clybourn avenue, corner of Herndon street. At this location operations were successfully continued until May, 1904, when, with the view to making ample provisions for all future demands, the company purchased the property that constitutes the site of the present modern plant, at 1744 to 1754 North Lawndale avenue. In 1906 the company erected a wing of the present building, the same extending through to Ridgway street, with a frontage of one hundred and twenty-five feet on Lawndale avenue and a depth of two hundred and sixty-six feet,—to the frontage on Ridgway street. The main building of the well equipped factory is three stories in height and is of "L" shape, the general lateral dimensions being one hundred and twenty-five by one hundred and twenty-five feet, with a depth of sixty-two and one-half feet.

At the initiation of operations the Harmony Company retained only four employes, and in the second year, 1893, the force had been raised to forty employes, but with the memorable financial panic that brought such general distress throughout the Union in that year it was found expedient temporarily to reduce the number of employes to eight men. Business gradually resumed normal proportions and the company made substantial advancement until 1907, when great disturbance in monetary, industrial and commercial affairs again brought about a curtailment in virtually all lines of enterprise, so that the Harmony Company felt constrained to meet the emergency by reducing its force of one hundred and thirty-five employes to thirty, while conditions were such that even these thirty men were assured of employment only three or four days each week. With renewed vitalizing of general business conditions the company again found normal prosperity attending its operations, and at this time a radical change in the system and policy of business was wisely adopted, after careful study and investigation. The annual output up to 1907 averaged about one hundred thousand dollars in value, and at the present time this average has been increased to two hundred and fifty thousand dollars. The year 1917 finds the company retaining a force of one hundred and twenty-five employes, the greater number of whom are skilled artisans, and the mechanical equipment and other facilities of the plant are of the best modern standard throughout. The output of the factory includes violins, mandolins, guitars, Hawaiian ukuleles, drums, etc., and each instrument manufactured is of the best standard consonant with the price for which it is to be sold, the grades varying from the finest to those of moderate price. In addition to a large and well organized trade in the United States the instruments of the Harmony Company command a substantial trade in the Canadian provinces, besides which the business has been extended into South American countries, into Europe and into Australia.

As indicative of the success of the business and as a matter of commercial

expediency, the capital stock of the Harmony Company was increased to one hundred thousand dollars at a meeting of the stockholders held at the offices of the corporation on the 1st of May, 1917, this action being taken in consonance with a resolution that received the unequivocal approval of all of the stockholders.

It is industrially a matter of interest to record that the greater portion of the instruments manufactured by the Harmony Company are made from careful selected timber of domestic growth, and that the thorough and effective process of seasoning all wood thus utilized renders the ultimate product virtually proof against all climatic conditions. All seasoning is done in the plant of the company, and the same is true of the foreign woods utilized in the manufacturing of certain instruments of specially fine type. The company's instruments have gained high reputation wherever introduced, and are recognized to be on a parity with the best products of the kind manufactured in any part of the world. The company received on its exhibit of guitars and mandolins the grand highest prize awarded at the great exposition held in the city of Seattle in 1909. An idea of the broad scope of the industrial enterprise of this corporation is conveyed in the statement that the annual output from its factory has now attained to an average of about seventy thousand instruments.

WILLIAM J. F. SCHULTZ

The president of the Harmony Company, description of which has been given in the preceding article, was born near the city of Hamburg, Germany, on the 20th of January, 1857, and after having profited by the advantages of the excellent schools of his fatherland he turned his attention to mechanical pursuits, for which he had a distinct predilection. In the city of Hamburg Mr. Schultz was engaged in the building of high-grade staircases and other forms of fine cabinet work, and he was an ambitious and industrious young man of about twenty-five years when he came to America and established his home in Chicago, in the summer of 1882. Here he found employment in the factory of the Knapp Drug Company, which owned a patent on a drum of original design. In 1884 the factory and patent were purchased by Lyon & Healy, long one of the foremost concerns engaged in the manufacturing and sale of musical instruments in Chicago, and after this change in control Mr. Schultz was made foreman of department devoted to the manufacturing of drums, banjos and tambourines. He continued as a valued employe of Lyon & Healy until 1892, when he became the organizer of the Harmony Company, of the founders and original executives of which he is now the only one living. Of the wonderful success this company has attained under his able and progressive direction as president adequate mention has been made in the foregoing article, and it may consistently be said that Mr. Schultz has won for himself secure vantage place as one of the vigorous and resourceful figures in the industrial and commercial circles of Chicago, the while his civic loyalty and public spirit have always been distinct and steadfast. Mr. Schultz is a member of the oldest German musical organization in Chicago, the Teutonia Mannerchor, composed principally of business men, and he was for seventeen years treasurer of the United Singing Society of Chicago. He has

exceptional appreciation of and talent for music and while a resident of Hamburg, Germany, he was a member of a leading singing society of that city.

In 1882 Mr. Schultz wedded Miss Minnie Brockmueller, and in the same year she accompanied him on his immigration to the United States. They have four children,—William and Paul, both of whom are now employed at the plant of the Harmony Company, of which the latter is secretary; and Clara and Minnie. The family home is at 3643 Cortland street.

FREDERICK H. BLANK

Associated with the Harmony Company since 1893, Mr. Blank is now treasurer of this corporation. Born in the Kingdom of Hanover, Germany, May, 1856, and in his native land he not only received good educational advantages in his youth but also learned in a most thorough way the trade of cabinetmaking, to which he there continued to give his attention until 1882, in March of which year he became a resident of Chicago. Here he was employed about four and one-half years in the establishment of Louis Gottman, who was conducting a prosperous business as a millwright and who later achieved distinction as the inventor of the dynamite gun. In Chicago Mr. Blank worked about six years as a wood patternmaker, and in 1893, as above noted, he associated himself with the Harmony Company, as a skilled machinist. In 1897 he was made treasurer of the company, and of this office he has since continued the efficient incumbent. He has worked vigorously and unremittingly in furthering the success of the extensive industrial enterprise with which he is thus identified, and is one of the principal stockholders of this corporation.

In 1882 was solemnized the marriage of Mr. Blank to Miss Christena Schaffler, who likewise was born and reared in Germany, and they have four children,—Frank, William, Alwin and Elizabeth. Frank and William are both capable machinists and as such are employed in the factory of the Harmony Company. The family home is at 3621 North Tripp avenue.

THE ADAMS & WESTLAKE COMPANY

The history of this old and important industrial corporation of Chicago has covered a period of sixty years and the business was here founded at a time when the city gave little promise of becoming a great metropolis. It was in 1857 that operations were instituted by the energetic principals who were destined to initiate the development of what has long been known as one of the great and substantial manufacturing industries of Chicago, and the business was incorporated under the laws of Illinois in the year 1869, the original officers having been J. McGregor Adams, John Crerar and J. Hall Dow, the names and achievement of whom have signified much in the civic and industrial development and progress of the great metropolis of the west. Since 1872 the main factory and

offices of the company have been maintained on the present site, the finely equipped plant, with buildings varying from four to seven stories in height, covering the entire block bounded by Orleans, Ontario, Franklin and Ohio streets, with the office at 319 West Ontario street. In this great manufactory are produced an extensive and varied line of railroad and shipping supplies, automobile lamps, metal car-trimmings, etc., and the plant includes brass and bronze foundries of the most modern order. They also operate a branch factory in Philadelphia, Pa. Operations are based on a capital stock of one million five hundred thousand dollars, branch offices are maintained in the cities of New York and Philadelphia, and in addition to a domestic trade that extends into all parts of the United States the company controls a well established export business in England, France, Russia, Japan and China. The present officers of this pioneer corporation are as here noted: Ward W. Willits, president; Frederick T. Vaux, vice-president and treasurer; and William S. Estell, secretary.

THE SENG COMPANY

The generic scope of the extensive operations of this company has been consistently designated in the expression "machinists to the furniture industry," and the concern has been a leader in the development of steel devices as applied in the manufacturing of furniture of varied types. The now large and well equipped factory of the company, at 1450-1468 Dayton street, represents one of the really important industries of Chicago and, as has well been said, "is one of the results of the introduction of Bessemer steel into the useful arts; it is devoted exclusively to the invention, development and wholesale manufacture of metallic parts and mechanisms used in the construction and operation of furniture, and is the largest of its kind in the world." From an attractive brochure giving more detailed description of the company and its manufacturing plant than is possible to incorporate in this publication are taken further pertinent statements, as follows:

"In the years when The Seng Company was struggling for existence, iron castings were still very generally used by furniture-makers, but such parts contributed little to the value of attractiveness of furniture. Not until steel stampings had practically superseded castings did the product begin to have much influence in determining the success of furniture in the markets, or the business of making them assume a definite importance. Now the various devices and mechanisms made by The Seng Company are recognized as standard in every furniture factory in the land, or, if something of special nature is required, this company is usually asked to make it."

It is much to have thus been the foremost in the upbuilding of a virtually new and important industrial enterprise. Faith and confidence have been shown by the honored founder of this splendid business and by his sons who succeeded in the control of the enterprise. They have given prestige to a family name and made a distinct contribution to the industrial and commercial precedence of the western metropolis. In giving further data concerning this representative

industrial corporation it is but consonant that further quotations be taken from the same source as those previously entered in this context, slight incidental paraphrase being indulged in the reproduction:

"The Seng Company is not content to rest its claims for distinction as 'Machinists to the Furniture Industry' upon the material equipment which it possesses, but to base them rather upon the specialized knowledge and personal skill acquired in long years of devotion to the one line of service. The greatest resources of this business are the fruits of experience gathered by Wendelin Seng and extended by his sons. Wendelin Seng was an industrial pioneer,—a pathfinder. He had the prophetic vision. He saw an approaching opportunity and went out to meet it, but he misjudged the distance and his own strength and he laid down his burden before success was ready to crown his work. Coming to this country in 1857, his trade of linen weaving did not give him the looked-for opportunities and he eventually became engaged in the manufacture of mattresses and later of upholstered furniture, with Chicago as the stage of his vigorous activities. For a time the business was conducted under the title of W. Seng & Company; later the enterprise was continued under the title of the Seng & Schoen Manufacturing Company, and finally the business was taken over by the present Hafner Furniture Company.

"It was as a manufacturer of upholstered furniture that Wendelin Seng became interested in special features involving the use of metallic devices. The result was that he ceased to make furniture. In 1874 he began the making of fixtures exclusively,—for bed lounges, rocking and reclining chairs and the like. A series of small shops in various locations antedated his removal, in 1887, to Nos. 11 and 13 South Canal street, where was used a floor space of three thousand square feet. In 1892 five thousand square feet were taken at Nos. 14 and 16 North Canal street. About this time Frank J. Seng became identified with the concern as bookkeeper and general assistant to his father, whose health had become impaired. For five years previously two other sons, Wendelin P. and Julius T. Seng, had been active in the shop.

"In 1894 The Seng Company was incorporated with stock interests divided between the father, the three sons mentioned and a fourth son, William J., who at that time was not an active member of the organization. The honored father died in 1896, his character and achievement being such that his name merits enduring place on the roll of the sterling captains of industry who have aided in making Chicago one of the world's great manufacturing and commercial centers. In 1897 the company removed its shop to Nos. 86-90 East Ohio street, and by 1900 about fifteen thousand square feet of floor space were utilized at this location. It was here that the business began to show signs of vigorous life. A market for the Seng specialties had been established. In 1901-2 a factory building was erected at 1464-68 Dayton street, where ground had been purchased for this purpose. Growing business soon demanded an increase of facilities, and in 1906-7 a concrete structure was erected adjoining the older factory, thus doubling the available floor space. In 1911 the top floors were vacated by the tenant who had occupied the same and the same year recorded the erection of a warehouse and an office building, these dispensations adding forty thousand square feet to the floor space occupied by the Seng Company and bringing the

total up to one hundred thousand square feet. These new buildings occupied the ground between the original factory building and a point to which it was possible to extend a spur of railroad track. At the present time new materials are received and products shipped in carload lots from the warehouse doors."

The Seng Company, through the medium of its catalogue and house organ and occasional bulletins to the trade gives adequate information concerning the products of its factory, and while the limitations of this article make impossible a detailed description it may be stated that among the many Seng Specialties that have "been instrumental in popularizing various articles of household furniture," some of the more important are those here mentioned:

Box-couch openers, rocker springs, couch-head adjustments, bed-lounge and bed-couch fixtures, Morris-chair fixtures, pedestal table locks, extension table attachments, high-chair table catches, folding-bed fixtures, metal-bed short rails and mould plates, and, most important, davenport-bed fixtures. The remarkable increase in the demand for davenport beds of various kinds was registered in The Seng Company's factory by a corresponding call for fixtures on the part of manufacturing upholsterers, and part of the recent increase in facilities is in response to that demand. One of the latest achievements of The Seng Company is the development of what has become known as Seng Sanitary Construction for Wood Beds. This involves the use of reversible steel side rails in place of wooden side rails and provides the necessary steel corner locks and end rails to make the new system of construction effective.

Of the Seng manufacturing plant it is needless to say more, that it is thoroughly modern and complete in all mechanical equipment and general facilities and appointments, and that it stands as one of the important and well ordered industrial institutions of Chicago. Concerning it the following statement has been made: "Size is not the most impressive feature of this factory, yet it has surprised many to learn that such extensive facilities have been assembled for the working up of steel into the various accessory parts of furniture." Even this necessarily brief review indicates measureably the scope and importance of the business controlled by The Seng Company, and those who now direct its destinies are as here noted: Frank J. Seng, president; Gerard J. Biehl, secretary; Wendelin P. Seng, general superintendent; and Julius T. Seng and William J. Seng, department superintendents. In closing this resumé it is consonant that the following quotation be taken from a comparatively recent number of the *Furniture Journal*:

"The Seng factory, at Dayton and Blackhawk streets, Chicago, is the only one of prominence in the country devoted specially to the production of steel parts and mechanisms used in the construction and operation of furniture. Its development has been both a cause and an effect of the development of the furniture industry in the United States for the past forty years, and its practically unrivaled position must, in the last analysis, be attributed to intelligent management and excellence of product,—in a word, fitness for a service which would have been divided among many had it not been so well performed by one. From a little shop in an alley it has grown into a factory using one hundred and fifty thousand square feet of floor space, equipped with the finest of modern machinery

and facilities and operated under the most approved methods of scientific management."

FRANK J. SENG

The foregoing review pertinent to the history and status of The Seng Company may appropriately be supplemented by specific mention of the efficient and popular president of this representative industrial corporation.

Frank Joseph Seng, son of Wendelin and Agnes (Baer) Seng, was born in Chicago, December 22, 1869, and his early educational discipline was acquired in the parochial schools of his native city. While continuing his studies as a member of night classes in a local business college he found employment as an office boy, his service in this capacity having been initiated in 1882, when he was about thirteen years of age. On the 22d of April, 1887, he assumed the position of bookkeeper in the offices of the Sugg & Beiersdorf Company, furniture manufacturers, and he remained with this company until it retired from business, in 1892. He then identified himself actively with his father's manufacturing business, and upon the incorporation of The Seng Company, May 24, 1894, he became its secretary. Upon the death of his honored father, July 22, 1896, Frank J. Seng succeeded to the presidency of the company, an office of which he has remained the incumbent since that time. An appreciative estimate of his character and accomplishment included the following statement: "His influence has been the dominant one in the harmonious team play of the Seng brothers, working steadily under varying fortunes toward success. His business relations are primarily with manufacturers of furniture. He is personally known to most of them and, by reputation, as head of The Seng Company, to practically all of them. He has achieved commercial success and preserved unspoiled a fundamental decency and kindliness of disposition which gains for him an ever widening circle of friends. In close touch with every phase of his business, putting in many hours at the desk, he also covers the position of outside man, makes frequent business trips out of town, generally participates in the gatherings of furniture manufacturers, wherever held, and keeps right on being a good fellow under any and all circumstances."

Mr. Seng served several years as secretary of the Chicago Furniture Manufacturers' Association and later as treasurer of the same, besides having been a director of the organization. He holds membership in the Illinois Manufacturers' Association, the Chicago Association of Commerce, the Chicago Credit Men's Association, and the National Association of Manufacturers.

Mr. Seng is a thoroughgoing Democrat in politics but has had no desire for public office of any kind; his religious faith is that of the Catholic church, he is a life member of the Chicago Art Institute, is past grand knight of the Knights of Columbus, and is a member of representative social organizations, including the Illinois Athletic Association, the North Shore Golf Club, the Wilmette Country Club, the Chicago Automobile Club, the Traffic Club, and the German Club of Chicago. He and his family reside in one of the attractive homes of the beautiful suburban village of Wilmette.

On the 16th of October, 1895, was solemnized the marriage of Mr. Seng to



Frank J. Jung

Miss Barbara M. Bichl, of Chicago, and they have four children,—Mary Agnes, Elizabeth Marian, Francis Arthur, and Raymond Anthony.

COMMONWEALTH EDISON COMPANY

ELECTRICITY SUPPLY IN CHICAGO

Inasmuch as electrical energy, to produce light, power or heat, is practically indispensable for all industries, the Commonwealth Edison Company, which is the central-station source of electricity supply for Chicago, is intimately connected with the manufacturing and wholesale industries of Chicago.

Wherever power is required to drive machinery—in the home as well as in the factory, in the office and store, shop and warehouse—it will almost always be found that electricity is the best medium to employ. The situation in this respect is stated concisely by the United States Census Report for 1912 on *Central Electric Light and Power Stations* in the following words: “The adaptability of the electric motor to all sizes of power units, the ease and small cost of installation, the economy of space required, its cleanliness, its instantaneous availability, the absence of noise, and the ease of operation, make it superior to all other forms of motors or engines, except where conditions preclude its installation.” During the decade 1902-1912 the number of stationary electric motors connected to the central stations of the United States increased from 101,064 to 435,473, or 331 percent, and the rated horsepower of such motors from 438,005 to 4,130,619, or 843 per cent.

But electric light, as well as electric power, is indispensable in the modern business house and factory. The maximum output of an industrial plant is possible only under the best operating conditions. Improved illumination means more work, better work and greater safety in industrial operations. It means that employees work with greater facility and more accuracy. Lack of sufficient illumination is no doubt responsible for a considerable percentage of damaged work and for mistakes in workmanship.

Electric heat, too, is playing an increasingly important part in industrial and household affairs. The electric furnace in metallurgy, electric welding in metal working, electric heaters in street cars and elsewhere, electric flatirons in laundries and homes, and a great variety of electric heating and cooking appliances, attest the widely recognized value of electrical means of applying heat.

In Chicago there are about 4000 electric automobiles, including both passenger cars and goods-carrying wagons and trucks, and it is estimated that the batteries on 87 per cent of these vehicles are charged with electrical energy obtained from the central-station lines.

Every surface and elevated railway in the city of Chicago is operated by means of electrical energy purchased from the Commonwealth Edison Company. The company has been a pioneer in demonstrating that railway companies should purchase their power, and by its action in this respect has benefited not only the railway companies but all its other customers.

The wholesale customers of the company are of the most diverse nature and embrace all of the leading industries of Chicago. It is this diversity of demand

on the central-station company, together with the demand made on it by the railway companies, that enables the company to make such low rates. A recent study of the records of 577 wholesale customers showed that their maximum load was 110,143 horsepower. It is an interesting fact that the wholesale power load increased from 65,450 horsepower in 1913 to 110,143 horsepower in 1916. The wholesale customers include hospitals, bakeries, automobile manufacturers, foundries, cement, brick, lime and building material manufacturers, coke manufacturers, theaters, hotels, clubs, restaurants, department stores, ice manufacturers, railroads banks, grain elevators manufacturers of iron, steel and brass, manufacturers of wearing apparel, tanneries, car-wheel manufacturers, manufacturers of electrical apparatus, garages, box manufacturers, printers and publishers, meat-packing establishments, wood-working establishments, motion-picture producers, candy manufacturers, office buildings and a list of miscellaneous manufacturers "too numerous to mention."

It is an interesting fact that whereas about 53 per cent of the total income of the company is derived from the sale of electric light and about 47 per cent from the sale of electric power, the output (including that for the railways) for electric power is 79 per cent of the total and for electric light but 21 per cent of the total.

It is believed that the Commonwealth Edison Company has a larger number of customers and a larger output of electrical energy sold than any other electricity-supply company in the world. The number of customers on January 1, 1917, was 320,984 and the output in the year 1916 was 1,341,964,000 kilowatt-hours.

The rates of the company have been steadily decreased by voluntary reductions. The decrease of July 1, 1916, reduced the primary rate for retail customers from ten cents to nine cents (net) and reduced bills of wholesale customers about \$216,000 per annum. All told, it was figured that the reduction of July 1, 1916, meant a saving of about \$1,000,000 a year to the consumers of central-station electrical energy in Chicago. The secondary rate for retail customers is five cents (net) a kilowatt hour and the tertiary rate for retail customers is three cents (net) a kilowatt hour.

The first company predecessor of the present Commonwealth Edison Company, tracing back the direct line of descent, was the Western Edison Light Company, which was chartered on May 25, 1882, and dissolved in 1887. However, this company did not give central-station service, although it installed electric-light plants, and its franchise to manufacture and distribute electricity, granted by the city of Chicago in 1887, was assigned to its successor, the Chicago Edison Company, on May 11, 1887. The latter company erected its first central station at what is now 120 West Adams Street, and on August 6, 1888, first began to distribute electricity from that point.

In the course of the years a number of other companies have been combined with the Chicago Edison Company, the successor of which is the present Commonwealth Edison Company formed in 1907. Among these companies were the Chicago Arc Light and Power Company, the Commonwealth Electric Company and the Cosmopolitan Electric Company.

The original capital stock of the Chicago Edison Company was \$500,000. The par value of the issued capital stock of the Commonwealth Edison Company on January 1, 1917, was \$45,838,936. The first bond issue, authorized in 1888,

was \$130,000. The amount of bonds outstanding on January 1, 1917 (including \$8,000,000 of the Commonwealth Electric Company), was \$42,631,000.

The generating stations of the Commonwealth Edison Company include some of the largest and finest in existence. Among them are the Fisk Street, Quarry and Northwest generating stations, the last named being at North California Avenue and Roscoe Street. The original installation in the Adams Street station in 1888 was about 640 kilowatts. The present rating of the generating stations of the Commonwealth Edison Company and its reserve storage batteries is about 400,000 kilowatts.

The income of the Chicago Edison Company from the sale of electricity in 1889 was \$105,700. In 1900 the predecessors of the present company had reached an income of \$2,260,812. In 1910 the income of the Commonwealth Edison Company was \$12,157,646 and in 1916 it was about \$23,000,000.

The Commonwealth Edison Company is distinctively a Chicago company. It has about 4200 stockholders, and of these about 75 per cent live in Chicago. The Chicago stockholders own approximately 80 per cent of the par value of the stock. Of the stockholders 39 per cent are women. The company had 5662 employees on January 1, 1917, and on these approximately 700 or 12 per cent were stockholders or in process of becoming stockholders.

In 1898 the kilowatt-hours of electricity generated and purchased were 26,084,000. In 1916, as has been stated, this figure had risen to 1,341,964,000 kilowatt-hours.

The company burns about 1,750,000 tons of coal a year and has usually on hand a supply of 250,000 tons. It has about 3,700 miles of underground conduits and about 7,600 of overhead wires.

When the company began giving central-station service in 1888 the largest electric generator in use was rated at about 800 kilowatts, while the largest generator now installed is rated at 35,000 kilowatts. This increase in twenty-eight years gives some indication of the amazing progress of the art of producing electrical energy, in compliance with the demand for electrical energy from the multifarious requirements of modern life.

During the year 1916 the famous Harrison Street generating station, which was put into service in 1894 and which was considered a marvel in its day, was torn down. During its entire life the output of the Harrison Street station was less than one-half of that of the company in the year 1915.

The company pays out about 8 per cent of its total operating revenue in various forms of taxation and municipal compensation. It is said to be the largest payer of personal property taxes in Cook County. Its revenue is obtained from various classes of customers in about the following proportions: Residences, 18 per cent; commercial lighting, 36 per cent; commercial power, 23 per cent; railway power, 23 per cent.

The directors and officers of the Commonwealth Edison Company are as follows:

Board of Directors—Henry A. Blair, Watson F. Blair, Benjamin Carpenter, Robert T. Lincoln, John J. Mitchell, James A. Patten, John G. Shedd, Solomon A. Smith, Samuel Insull.

Officers—Samuel Insull, President; Louis A. Ferguson, Vice-President; John F. Gilchrist, Vice-President; William A. Fox, Vice-President; John H. Gulick,

Vice-President; Edward J. Doyle, Secretary and Treasurer; Robert L. Elliott, Assistant Secretary; William S. Kline, Assistant Secretary; George E. Burns, Assistant Treasurer; Henry E. Addenbrooke, Auditor; Thomas J. Walsh, Assistant Auditor; David Levine, Assistant Auditor.

THE SQUIRE DINGEE COMPANY

At this juncture it is pleasing to direct attention to one of the pioneer business concerns of the western metropolis,—one that dates its foundation back to the year 1858, when Squire Dingee and his brother Samuel M. purchased for their farm a tract of land that is now occupied by the splendid Chicago suburb of Wilmette, north of Chicago and on the shore of Lake Michigan. The portion of their land which these sturdy brothers cleared and made ready for cultivation is now traversed by the great drainage canal of the Chicago Sanitary District, and the fine old house which they erected on their property as a home stood on the site of the Ouilmette Club, the original barn on the place likewise being used by the club. On this primitive farm Squire Dingee developed an excellent truck garden, and in connection with his market-gardening operation he initiated the manufacturing of pickles from the cucumbers and other products raised in his gardens. His first lot of pickles was placed in barrels and stored under the veranda of his house. The superiority of the pickles caused them to meet with a most favorable reception on the part of the public, a prosperous trade was gradually developed and about this primitive nucleus has been evolved the extensive and nationally reputed pickle industry now controlled by the Squire Dingee Company of Chicago—the name of the company having long stood as the synonym of products of unexcelled order. With the advancement of his business Squire Dingee finally transferred his base of operations to Bowmanville, where he purchased land and began to raise cucumbers and other vegetables upon a much larger scale, for the express purpose of manufacturing the same into pickles. He had the genius of assertiveness and progressiveness, and finally he opened a Chicago office, at what is now No. 342 North LaSalle street, at the mouth of the old foot passage tunnel under the Chicago river on La Salle street. When the marvellous growth and development of Chicago and its environs the Dingee farm land became too valuable to reserve for agricultural or horticultural purposes, and under these conditions Mr. Dingee made proper provisions for the raising of his pickle crops in the vicinity of Jefferson, Cook county. The reputation of his products grew apace and he had the prescience and good judgment to make good use of the opportunities presented, with the result that shipments of the Dingee pickles gradually found their way into the most diverse states of the Union. He made an effective exhibition of his pickles at the National Centennial Exposition held in Philadelphia, in 1876, and on the same he received first award, with accompanying gold medal. As a result of this incident he adopted the now nationally known “Gold Medal” brand for his various products.

In 1880 Mr. Dingee organized the firm of Squire Dingee & Company, and with the rapid and substantial expansion of his commercial business he soon found it expedient, in 1886, to incorporate the business under the laws of Illinois and

with a capital stock of one hundred thousand dollars. In addition to the well equipped pickle factory operated at Jefferson he also placed in commission another factory, at Morton Grove, and it was given to the honored founder to promote and witness the upbuilding of his once small industrial enterprise to proportions that marked it as one of the largest and most important of its kind in the entire Union. At the time of the incorporation the present title of the Squire Dingee Company was adopted, and after years of earnest and constructive enterprise and application, Mr. Dingee sold his interest in the business, in 1892.

The present fine building of the Squire Dingee Company was erected by the corporation in the year 1900, the original structure having had a frontage of fifty feet on Cortland street and being three stories in height. These quarters were soon destined to prove inadequate for the accommodation of the ever increasing business, and since that time additions have been made to the plant until the building extends a distance of an entire city block east and west and also north and south, except for two corners. Forty country factories have been added to the productive facilities of the company, and these are owned and operated by the concern in a direct way, besides which there are handled under contract the products of twenty-five other factories. The annual output of the Squire Dingee Company in the line of cucumber pickles alone has now reached the enormous aggregate of three hundred thousand bushels, and the concern also manufactures other high-grade condiments and table delicacies. Its goods are shipped to all sections of the United States and the name of the company has always constituted a valuable commercial asset. The control of this important industrial enterprise is now vested entirely in Frank A. and Harry A. Brown, who own all of the stock, and since 1904 Frank A. has been president of the company and Harry A. the secretary and treasurer. They are numbered among the representative and progressive business men of Chicago and are loyal citizens concerning whom more specific mention may consistently be made in appending paragraphs.

FRANK A. BROWN

The president of the Squire Dingee Company was born in Chicago, on the 14th of October, 1872, and is a son of David Paul and Ellen M. (Francis) Brown. His early educational advantages included the discipline of the public schools in the suburb of Ravenswood, the Lake View high school of Chicago and the Michigan Military Academy, at Orchard Lake. In March, 1894, a few months after attaining to his legal majority, Frank Arnold Brown, entered the employ of the Squire Dingee Company, and later he was given charges of the sales department and the Chicago office. His resourcefulness and energy gained to him further advancement and he had served as vice-president and treasurer of the company prior to becoming associated with his brother in sole control of the business, at which time he assumed his present office of president.

Mr. Brown is a Republican in politics, has received the thirty-second degree in the Scottish Rite of the Masonic fraternity, and is a Shriner; was president

of both the Ravenswood and Oakliff Country Clubs, where the family home is now maintained.

On the 14th of August, 1895, was solemnized the marriage of Mr. Brown to Miss Ella Grace Bryan, of Chicago, and they have three children,—Dorothy G., Olney Frank, and Gertrude. Mrs. Brown died on March 13, 1912, and Mr. Brown married Miss Pearl A. Billings September 15, 1915.

HARRY A. BROWN

Harry Adams Brown, secretary and treasurer of the Squire Dingee Company, was born in the city of Providence, Rhode Island, on the 17th of January, 1876, and was a child at the time of his parents' return to Chicago. Here he profited duly by the advantages of the public schools and was also a graduate of Lake View high school and his initial business activity was in connection with the affairs of a Chicago real-estate firm. Thereafter he was in the employ of Sweet, Dempster & Company, a prominent Chicago manufacturing concern, and since 1898 he has been identified with the Squire Dingee Company, of which he has been secretary and treasurer since 1904, and in the ownership of the extensive business he is now associated with his brother Frank A., mentioned above. He is aligned in the ranks of the Republican party and takes solicitous interest in all things pertaining to the civic and material wellbeing of his home city, his residence being at Wilmette.

April 14, 1898, recorded the marriage of Mr. Brown to Miss Maud Billings, of Chicago, and they have two children,—Nellie Frances, and Paul.

Both Frank and Harry Brown were prominent in athletics during their school career, particularly at Lake View high school when for practically three years they assisted in capturing most of the championship prizes and records in foot ball, base ball, track and other events, both served as captains of these various teams.

FOOTE BROTHERS GEAR AND MACHINE COMPANY

At this juncture it is permitted to direct attention to one of the extensive and important industrial concerns of the western metropolis, and in the manufacturing of standard gears in endless variety, the enormous plant of this company ranks as the largest of its kind in the United States. It is not necessary to state that within the limitations of an article such as the one here presented, it is impossible to enter into the manifold details concerning the wonderful variety of the products manufactured in this great establishment, and such indulgence is not demanded, as the literature issued directly by the company effectively describes and exploits the varied productions that invariably represent the acme of excellence. The company are sole manufacturers of the celebrated IXL productions, including spur, bevel, mitre and spiral gears; worm, internal, helical and tractor gears, rawhide pinions, cut steel machine racks. Special attention is given to the production of the IXL all-spur gear speed transformers,

worm-gear speed transformers, tractor transmissions and the Foote-Strite transmission, a standard transmission that is adaptable to almost any type of tractor, and that will absolutely meet all conditions. In the great dual plant of this corporation the mechanical equipment and the accessories are of the best modern type in all departments, and the company has the highest of reputation in industrial and commercial circles, has the best facilities for the manufacturing special machinery to order, including that of the most intricate order. The offices and works of the Foote Brothers Gear & Machine Company extends from 210 to 220 on North Carpenter street and the adjunct plant is situated on a site extending from 211 to 221 North Curtis street, from a recent catalogue issued by the company are taken the following extracts, which fully merit perpetuation in this connection.

This business was founded over twenty-five years ago. It occupied a small space in the old Machinery Hall, on Canal street, where it was totally destroyed by fire in 1904. It was then reorganized and became known under the present firm name, occupying larger premises, on Clinton street. The steady increase of business and the acquirement of more machinery demanded larger quarters. We, therefore, in 1906, built a large concrete building on Carpenter street, especially adapted for the manufacture of our line. In 1910 we utilized all space in this building and also erected and occupied another concrete building adjacent thereto. In 1912 we were obliged to put up another building on Curtis street, back of and adjoining our plant, and in 1916 we erected, equipped and put into commission our fourth building. This new building has a twenty-four foot ceiling, high enough to accommodate traveling cranes to take care of larger gears than we had previously been equipped to handle. Our heavy machinery is located on the ground floor, which is built at street grade, so as to have strength to carry the heaviest loads. This department now has alone an area of over fifty-four thousand square feet of space. The second and third floors are equipped with medium and light weight machinery for the production of smaller and lighter gears. We believe we are at present the largest manufacturers in the United States devoted to a general line of gears. Many others specialize in some one or two types, but none other has the great flexibility of plant and equipment to manufacture any style of gear that is made or used, such as we have. To the high quality and careful workmanship we put into our various lines, we attribute our wonderful and rapid growth. Our equipment is thoroughly complete and modern and consists of the very latest types of machines devised for the manufacture of our large and varied line. To keep fully abreast of the times, we are constantly adding new machines thereto as fast as they are designed and has proved efficient. In the way of equipment and service we have every facility for high-grade machine building."

The new enormous and important industrial enterprise conducted by the Foote Brothers Gear & Machine Company had a very modest inception, in 1889, when Henry Breeding, a foreman in the shop of the Cragin Manufacturing Company, of Cragin, Illinois, secured the contract for the building of the metal dome for the telescope, building of the Northwestern University at Evanston. He resigned his position at Cragin, and his place as foreman was assumed by D. O. James, who gave him financial assistance and valuable cooperation in connection with this contract for the manufacturing of the university dome.

This work was done largely in a small shop in the old Central Manufacturing block, on Washington street, and Messrs. Breeding and James formed no regular alliance in carrying forward the work, and after the completion of the contract Mr. Breeding retired from the quasi-partnership. Immediately thereafter Mr. James effected the organization of the James Machinery Company and began a small manufacturing enterprise in the same quarters that had been utilized in the manufacturing of the university dome. His associates in the new business were Messrs. Foster and Hubbard, but in 1890 John E. Grant acquired the interests of these partners and the factory was then removed to 39 West Washington street. In 1893, a year memorable for general panic, John B. Foote purchased a one third interest in the business, which was conducted under the firm name of James, Grant & Foote, and in 1895 the plant, which at that time was valued at twenty thousand dollars and in which forty employees were retained, James and Foote sold to Mr. Grant, and formed a new partnership of James & Foote and removed to the old Machinery Hall, 60 South Canal street. There, with a capital of seven thousand dollars and with an available floor space of fifty-six hundred square feet, the firm began the manufacturing of the "Shamrock" bicycles and various bicycle accessories, in connection with which was introduced the now famous IXL gears, together with patents of John B. Foote. Later the enterprise was expanded by including the manufacture of the universal milling machine, another invention of Mr. Foote's and a device now used in all principal manufacturing centers in the world, the same utilized in the cutting of gears and milling metals. In 1898 the firm discontinued the manufacturing of bicycles, though bicycle accessories were still retained in the province of production. At this juncture special attention was given to the manufacturing and exploitation of the milling machines, and a very substantial business was developed in this department and that given to the manufacturing of gears. The trade had been extended into the most diverse section of the Union and the force of factory employees averaged about eighty at the time when the plant was entirely destroyed by fire, in 1904. In the new plant established at 30 South Clinton street, ten thousand five hundred square feet of floor space were utilized and the force of the employees was increased to one hundred. In 1907 the building occupied by the company was torn down, incidental to the building of the new passenger station of Chicago & Northwestern Railroad, and in preparation for the removal thus necessitated the company had purchased the land on which its present great plant is located, a preceding paragraph having given adequate information concerning the building and equipment of this modern industrial plant. On the 8th of June, 1904, John B. Foote purchased the entire interests of James & Foote, and formed the Foote Brothers Gear & Machine Company, and effected a reorganization under the present corporate title. He has since been the president of the company, and the other interested principals are his brother, Bradford Foote, John Larson, and James Donaldson. J. B. Foote, president and treasurer; B. Foote, vice president; James Donaldson, secretary. Notwithstanding the larger proportions of the present plant, the company is preparing to meet future demands by the erection of a much larger plant, and for this eventual purpose has recently acquired twenty-five acres of land on sixty-third street and with direct connection with the Chicago Belt Railway. One of the foremost productions sent forth from



John B Foote

the great factory is the IXL spur gear reducing transformer, which was invented by the president of the company and on which he received letters patent on the 1st of April, 1913, with supplemental patents in July, 1916. Mr. Foote likewise invented and patented a cap placer, and the same was manufactured by the company for some time in 1912. He invented and patented also a cherry-pitting device, on which he has since received additional patents covering improved features, and his inventive skill was shown also in the production of a device for stick fly-paper, the same having been patented by him. Among his most important inventions may be noted the following: automatic body-shearing machine, semi-automatic can-seaming machine, a machine for making can bodies, automatic stamping press and can-heading machine, tomato scalding and peeling machine, Universal milling machine, and the spur gear reducing transformer. He has on file in the United States patent office several applications for patents, besides having important patents pending on tractor transmission machinery. He has received three different patents on cherry steaming machines invented by him. Foote Brothers are active members of the Illinois Manufacturers' Association and the Chicago Association of Commerce.

JOHN B. FOOTE

The president of Foote Brothers Gear & Machine Company was born in Chicago on the 6th of April, 1865, and is a son of the late George C. Foote, who was a representative of one of the early pioneer families of Chicago and who was here definitely credited with being the first white child born after the incorporation of the town, the year of his nativity having been 1833. He lived to see his native city develop from a mere village into one of the greatest metropolitan centers of the country, and here he continued to work actively at his trade, that of machinist, until he had attained to the age of 76 years. He was 83 years of age at the time of his death, in June, 1916.

John B. Foote received but limited educational advantages in his boyhood and youth but has profited fully by the experience gained under the direction of that wisest of all headmasters, experience. He was but eleven years old when he started to work in the can factory of the Chicago Stamping Company, in 1876, remaining until 1880. He then went with the Cragin Manufacturing Company, who were then located at Canal and Washington streets, he was given the position of die setter and foreman of the press department. Remained here until seventeen years of age, when he gave up this position to apprentice himself with Fraser and Chalmers, now Allis Chalmers. Subsequently returned to the Cragin Manufacturing Co., located at Cragin, Illinois, formerly known as "Old Whiskey Point," which derived its name from the fact of the Indians, who buried their whiskey here from the threatened raid of Chicago. Four years later he entered the employ of Norton Brothers, but a year later he was tendered and accepted the position of assistant superintendent of the factory of the Cragin Manufacturing Company. He next took charge of the machine shops of the Chicago Can Company, and two years later he assumed a responsible position with the Albert Fisher Company, where he became master

mechanic and superintendent of machinery for which corporation he invented a number of automatic can-making machines, the plant of this company being located at Hamilton, Ohio, and afterward sold to the American Can Company. With this company Mr. Foote continued his alliance until he returned to Chicago and became a member of the firm of James, Grant & Foote. His activities since that time having been adequately noted in an incidental way in the foregoing record of the company of which he is president. He is a member of the Illinois Athletic Association Club, the Oak Park Club and the Oak Park Lodge of Elks.

In 1897 Mr. Foote wedded Miss Anna Shannon, a daughter of Nicholas Shannon, who was a lieutenant in the Chicago police department.

THE WADSWORTH-HOWLAND COMPANY

On the 1st of January, 1886, was established the Chicago branch of Wadsworth, Howland & Company, of Boston, Massachusetts, the parent institution being one of the oldest and largest devoted to the manufacturing of paints that the United States can claim, its inception dating back to the year 1844. In 1886 John Wadsworth came to Chicago as western representative of the Boston concern and at 208-10 South Clinton street, as now designated, he rented two floors of a building and there began the manufacturing of a general line of mixed paints and colors, the original force of employes having numbered less than twelve. In 1889 he was forced to seek other quarters, primarily on account of the razing of the building utilized, in connection with the construction of the tunnel on Clinton street, and secondarily because he realized the imperative need for larger accommodations for the factory. Under these conditions removal was to West Harrison street, near Clinton street, where was acquired a floor space of twenty-seven thousand square feet. Ten years later these premises passed into the possession of the Western Electric Company, and the Wadsworth firm then effected a long lease on property at the corner of Thirteenth street and Indiana avenue, where for its use was erected a modern factory building especially designed and arranged for the purpose. Here the corps of employes was increased to somewhat more than forty persons and here the constantly expanding business was conducted until 1906, when was erected the present large and modern plant at the corner of Carpenter and Fulton streets. The building here utilized as a substantial brick structure of six stories, sixty by one hundred feet in lateral dimensions, so that it gives for the accommodation of the various departments an aggregate floor space of thirty-six thousand square feet. The plant has been amplified to meet increasing demands for space, and thus it may be noted that Factory No. 1 affords sixty thousand square feet; Factory No. 2 has ten thousand square feet; and the concrete engine and boiler house has sixteen thousand square feet. In the factories a large and ample force of skilled employes is retained, and eighteen traveling salesmen represent the company through its trade territory in the middle west. The present corporate title of the Chicago branch was adopted in 1888, and in 1889 the business was made independent of that of the parent concern in Boston. In 1892 Alson Ellis Clark, previously a member of

the brokerage and commission firm of Hoagland & Clark, became one of the chief stockholders of the Chicago company and in that year he succeeded John Wadsworth in the presidency of the same. With a controlling interest, Mr. Clark continued the executive head of the company until his death, in 1911. Mr. Clark long played a large part in the civic and commercial life of Chicago and his sterling character and large achievement made him a man of wide influence. He was for a number of years a prominent member of the Board of Trade and also served earnestly and effectively as a director of the Chicago Humane Society.

ALSON E. CLARK

Alson E. Clark, who had much to do with the development of the substantial business now controlled by the Wadsworth-Howland Company, as above intimated, was born in Barre, Vermont, and represented the old Green Mountain state as a valiant soldier of the Union in the Civil war. Shortly after the close of the war he came to Chicago and effected the organization of the brokerage and commission firm of Hoagland & Clark, which became one of the most influential in the operations of the Board of Trade and with which he continued his active association until 1892, when he retired from this field of enterprise to identify himself with the Wadsworth-Howland Company, as stated above. He was a man of broad views and strong intellectuality, was a republican in politics, and was affiliated with Masonic fraternity, including Apollo Commandery of Knights Templars. He was seventy-two years of age at the time of his death, in 1911, and his wife, whose maiden name was Sarah Skinner, is now deceased.

MANCEL T. CLARK

It is interesting to record that Mr. Clark has succeeded his honored father in the presidency of the Wadsworth-Howland Company and that as a resourceful man of affairs and a loyal and progressive citizen he is well upholding the prestige of the family name. He was born in Chicago on the 12th of May, 1875, a son of Alson E. Clark, to whom a tribute has been paid in preceding paragraphs, and in his youth he was afforded the advantages of two of America's historic educational institutions. After a preparatory course in famed old Phillips Academy at Andover, Massachusetts, he entered Yale University, and in this institution he was graduated as a member of the class of 1897 and with the degree of Bachelor of Philosophy. After his return to Chicago, in order to learn the varied details of the business, he accepted a minor clerkship in the offices of the Wadsworth-Howland Company, of which his father had become president about five years previously. Here he rose step by step to planes of increasing responsibility, and thus he was well fortified when called upon to assume the office of president of the company when his revered father was summoned from the stage of life's mortal endeavors. The company has prospered under his administration

and he has brought to bear progressive policies and the vitality that is his inherently as a native son of Chicago. The company of which he is president has active representation in the Illinois Manufacturers' Association and the Chicago Association of Commerce. Mr. Clark is aligned as a supporter of the cause of the republican party, and holds membership in the Chicago Club, the University Club, the Saddle & Cycle Club, and the Chicago Yacht Club. He is an enthusiastic devotee of athletic and general outdoor sports and finds his chief diversion and recreation during the summer seasons in his activities as a yachtsman. The trade of the Wadsworth-Howland Company extends throughout all states of the middle west and has now attained to an average volume represented in three-fourths of a million dollars annually.

October 1, 1904, recorded the marriage of Mr. Clark to Miss Elizabeth Hamlin, and the marriage was solemnized under idyllic surroundings, at Lake Placid, one of the most beautiful resorts in the Adirondaek mountains. Mrs. Clark was born and reared in Chicago and is a daughter of John A. Hamlin, who was long a prominent manufacturer in this city. Mr. and Mrs. Clark have one child, Mancel T., Jr.

DANIEL A. MURPHY

Of the above mentioned Wadsworth-Howland Company Daniel Archibald Murphy is the efficient and popular secretary and one of the principal stockholders. He was born at Worth, Cook county, Illinois, on the 25th of February, 1869, and is a son of the late Archibald Murphy, who was born in Ireland and who became a prosperous and representative exponent of agricultural industry in Cook county, Illinois, his death having occurred at Blue Island, in 1894, when he was sixty-seven years of age. Daniel A. Murphy acquired his early education in the public schools of Blue Island and supplemented this by an effective course in the Bryant & Stratton Business College in Chicago. At the age of seventeen he took the position of office boy for the Wadsworth-Howland Company, this being in December, 1886, before the business of the company had been segregated from that of the parent concern in Boston. His experience has thus covered the entire course of the company's activities in Chicago and his advancement has been won through ability, energy and close application. With the company he held various positions of responsible order. In 1897 he became one of the stockholders of the company, as well as secretary, and he is now the incumbent of this office, as well as that of vice-president. Mr. Murphy is a republican in politics and has been prominent and influential in public affairs in his home city of Blue Island, where he served two terms as a member of the board of aldermen and has been otherwise active in civic and municipal affairs. He and his wife are active members of the Christian Science church and he is prominently affiliated with the Masonic fraternity, in which he is past master of his lodge and past high priest of his chapter of Royal Arch Masons.

On the 14th of November, 1894, was solemnized the marriage of Mr. Murphy to Miss Myrtle M. Wheeler, of Indianapolis, Indiana, where she was born and reared. They have no children.

G-A BALL BEARING MANUFACTURING COMPANY

At 123-141 North Albany avenue is established the manufacturing plant of this progressive industrial corporation, which has built up a substantial and prosperous business in the manufacturing of the highest grade of ball bearings for automobiles and all manner of operative machinery, the output of the factory including both thrust and radial ball bearings and the distinct superiority of products constituting the basis on which has been built up the successful and important industry.

The G-A Ball Bearing Manufacturing Company was organized and incorporated in the year 1910, and operations were initiated in quarters at 1509 North Halsted street, where requisition was made for about twenty-five hundred square feet of floor space. Here employment was given to eight mechanics of skill and experience and the mechanical and operative facilities of the new institution were such as to make possible the turning out of about sixty-five bearings daily, these being of diversified sizes. The high-grade productions of the company soon caused the business to expand in scope and importance, and to provide more ample accommodations removal was finally made to 342 North Sheldon avenue, where was obtained four thousand square feet of floor space and where the mechanical equipment was increased, as well as the force of employes. In 1915, again making provision for the exigencies of the constantly growing business, the company removed to its present well equipped plant, which is established in a fireproof industrial building that affords an aggregate floor space of fully thirty-five thousand square feet. The force of operatives now numbers sixty men and the output of the factory averages five hundred bearings daily,—even this noteworthy production being inadequate to meet the demands placed upon the institution.

In 1914 was effected a reorganization of the company, and at this time the following executive officers were chosen: Emil A. Schreiber, president, treasurer and general manager; B. A. Schreiber, vice-president; and Thomas Moore, secretary and sales manager. The company issues most comprehensive and attractive descriptive catalogues, the same giving to the trade all necessary information concerning the multifarious products, all of which are manufactured under the brand or trademark of G-A ball bearings. From one of the catalogues of the concern are taken the following pertinent statements:

“From the time we started manufacturing, our growth has been the healthy, steady growth of a successful corporation, and we attribute this success to quality, workmanship and service. Our motto is, ‘One bearing like another and everyone perfect.’ Our inspection department insures such deliveries that replacements and complaints are a rarity. The rings of our bearings are made of the highest grade chrome bearing-steel, free (commercially) from such impurities as sulphur and phosphorus.—hence, a supreme quality. These rings are hardened by a special process whereby every ring is subjected to the same degree of heat, rendering the metal hard and tough.—superior in every way to the results obtained by case hardening. The balls used are the very highest grade of chrome-steel balls and are accurate to within 0.0001 inch.

“In design the G-A bearing is not of the freakish variety, but, with our strong and durable retainer, which is fully protected by patents, together with

our deep ball-race, using the maximum number of balls possible, the constituent construction enables us to guarantee the life of the bearing to be the longest of all types of ball bearings yet manufactured. Our deep ball race permits a greater axial load or end thrust, which is sure to exist no matter where a radial bearing is placed or how accurately it is set, and this consequently insures a more durable bearing. Our retainer being fool-proof and our rings and balls being of the best material procurable, the efficiency of the G-A bearing has been most thoroughly demonstrated."

The trade of this progressive company has been extended into the most diverse parts of the United States and a substantial business has been developed also in Canada, South America, Australia and European countries. The company has membership in the National Metal Trade Association and the National Credit Men's Association, and Illinois Manufacturers Association.

EMIL A. SCHREIBER

Emil A. Schreiber, president of the company described in the foregoing context, was born and reared in Chicago, and his early educational discipline included that of the public schools and an effective course in the Bryant & Stratton Business College. In connection with his father's business Mr. Schreiber served a thorough apprenticeship as a blacksmith and machinist, and at the age of eighteen years his technical ability was such that he was made foreman of his father's factory. After the death of his father, in 1894, he assumed complete charge of the business, which involved specially the manufacturing of structural and ornamental iron, and he continued his activities along this line until he became the founder of the G-A Ball Bearing Manufacturing Company, the splendid success of which has been due largely to his technical skill and discrimination and his progressive executive policies. He is an enthusiastic devotee of motoring and holds membership in the Chicago Automobile Club, and Siloam Commandery of Knight Templars and Mystic Shrine.

THOMAS MOORE

Thomas Moore, secretary and sales manager of the G-A Ball Bearing Manufacturing Company, was born in the ancient and picturesque town of Brixham, Devonshire, England, where he was reared and educated, and he was about twelve years of age when he severed the ties that bound him to the "right little, tight little isle" and came to the United States, in 1887. He has been a resident of Chicago since 1893, and for a number of years thereafter he was in the employ of the wholesale hardware house of Hibbard, Spencer, Bartlett & Company. After severing this alliance he held a responsible position in the employ of the Sellers Manufacturing Company until 1910, when he became one of the organizers and interested principals of the company of which he is now the efficient and

popular secretary and sales manager. Mr. Moore is affiliated with the Masonic fraternity, including Evanston Commandery of Knights Templars and Shrine.

IMPERIAL BELTING COMPANY

This company manufactures high-grade fabric belting for elevating, conveying and transmission service. Incorporated July 28, 1909. Original capitalization \$5,000.00 which has been increased as follows: December 20, 1909 to \$10,000.00; June 2, 1910 to \$20,000.00; December 23, 1911 to \$40,000.00; January 6, 1913 to \$55,000.00; May 18, 1915 to \$100,000.00. Present capitalization \$100,000.00.

Association members: Illinois Manufacturers' Association, Chicago Association of Commerce.

The Imperial Belting Company are specialists in the manufacture and sale of high-grade belting only, meeting various service conditions with special belts. They have made very rapid progress since the organization of the company and are very successful, their sales organization at the present time covering the entire domestic field, and in addition, they enjoy a very satisfactory and constantly growing export trade.

The present officers of the Imperial Belting Co., are: Mr. Arthur R. Shurtleff, President and Treasurer; Mr. Dallas R. McKay, Secretary; Mr. Harry E. Dennie, General Manager.

The Factory and General Offices are located at Lincoln and Kinzie streets.

CHICAGO BELTING COMPANY

By a splendid co-ordination in efficiency of service and in the manufacturing of products of the maximum excellence this representative industrial corporation of Chicago has developed an enormous business, objective appreciation of this fact being assured when it is stated that transactions of the company for the fiscal year 1916 represented a factory output and sale to the value of about one million six hundred thousand dollars, while the record for 1917 is certain to approximate two million dollars. The Chicago Belting Company has status as one of the most extensive and important concerns of its kind in the United States, and in addition to the great aggregate of the domestic trade controlled the company has developed a large and well ordered export business,—in England, France, Italy, Spain, Greece, Russia, India, Mexico, and the countries of South America and Central America, as well as the provinces of the Dominion of Canada. The wide ramifications of the business work side by side with industrial progress along manifold lines, for there are few types of productive industry that do not demand in their operations such products as are turned forth from the large and modern factory of the Chicago Belting Company.

In 1908 the Chicago Belting Company completed and took occupancy of its present splendidly equipped manufacturing plant, at 113 to 125 North Green

street. The modern industrial building designed specially for the requirements of the company, is a five-story, fireproof structure of reinforced concrete, with light on four sides. The building has a frontage of one hundred and forty-four feet on Green street, and its depth is one hundred and seventeen feet, the aggregate floor space afforded, and used entirely by the company, being seventy-five thousand nine hundred and sixteen square feet. In this model factory are the most modern machinery and accessories for the manufacturing of leather belting and leather specialties of the highest grade, and the products of the plant represent the ultimate standard of excellence in this sphere of industrial enterprise. Belting is manufactured in widths, lengths and varieties to meet all manner of industrial requirements, and the principal lines of belting are manufactured under trademark brands, including those here designated: Reliance, Sea Lion (waterproof), Sterling, Imperial, Dynamo and White Strip. In all grades of belting manufacture the most punctilious attention is given to the selecting of basic stock and to the maintaining of the highest standard in every detail relative to turning out the finished product. Belting is manufactured by the company for all kinds of power-transmission service, and the belting produced by this vigorous Chicago corporation is used in the largest of industrial plants both in America and in foreign lands,—in cement factories, saw mills, in mining work, in paper mills, chemical works, light and power plants and in all manner of manufacturing establishments. The reputation that has been gained and maintained by this company constitutes its most valuable commercial asset. In the development of the now extensive enterprise all business was secured by solicitation direct from the Chicago offices, through the incidental medium of fine catalogues and other descriptive literature, until about 1902, when branch offices and supply rooms were established, such branches being now maintained in New York city, New Orleans, and Portland, Oregon. In an article of this nature there need be no attempt to give detailed description of the company's factory and output, but it should be noted that in addition to belting the company manufactures a line of high-grade leather specialties also, including halters, "Chibeece" brand of leather cups, pump leathers, packing rings, leather wheels, friction leathers, leather discs, trunk handles, etc., besides which the Reliance belt cement, Sea Lion cement and Reliance belt dressings are special products manufactured, the company handling also tools and appliances utilized in connection with belting transmission service.

The business of the Chicago Belting Company had its inception in the year 1889, when Charles Allis, who is still the executive head of the business, initiated operations on a small scale, with headquarters in a building at the corner of Randolph and Canal streets. On the 10th of December of the same year the business was incorporated under the present title and with a capital stock of five thousand dollars. The personnel of the original executive corps was as here noted: Charles Allis, president; James Moloney, vice-president; Edward H. Ball, secretary; and John M. Thomas, treasurer. The policy of turning out only work of the highest grade gained to the new company a substantial and constantly expanding supporting patronage, and operations were continued at the original location until 1896, when larger accommodations were secured at 20-70 South Canal street. Here the business was conducted until the completion and equipment of the present fine industrial plant, in 1908, when the productive

capacity was doubled and provision made for the proper handling of the constantly growing business. The capital stock of the company is now five hundred thousand dollars, and the consecutive growth of the business is shown in the following schedule, of the average annual business during successive periods of five years each: First five years, \$146,041; second five years, \$253,462; third five years, \$445,154; fourth five years, \$585,040; fifth five years, \$818,275; rate per annum for ensuing two and one-half years, \$1,481,589; rate for ensuing year, 1917, \$1,830, 648. In the factory the company retains an average force of one hundred and sixty employes, and the productive organization is notable for efficiency, as is also that pertaining to the commercial phases of the enterprise. The company has membership in the Chicago Association of Commerce, the Illinois Manufacturers' Association and the Chicago Credit Men's Association. Charles Allis has been president of the company from the time of its incorporation and the other members of the official corps are as follows: Edward H. Ball, vice-president; Charles A. Ball, secretary; and Benjamin T. Leuzarder, treasurer.

JOSEPH A. REES

The Brier Hill Steel Company, which has its offices at 3604 South Morgan street, in connection with its general plant in Chicago, represents one of the large and important manufacturing industries adding to the commercial prestige of of the western metropolis, its principal functions being in the manufacturing of pig iron, steel billets and sheet steel, and the average annual output being about one hundred thousand tons, the products being shipped to all parts of the world. Of this representative corporation Mr. Rees is vice-president and manager, and both he and the company merit specific recognition in this publication.

Mr. Rees takes due pride in claiming the fine old Bluegrass state as the place of his nativity. He was born at Covington, Kentucky, on the 20th of September, 1866, and his early educational advantages were those afforded in the public schools of his native city. He gained his initial experience in connection with the steel business by entering the employ of W. T. Simpson & Company, engaged in the galvanized sheet steel business in the city of Cincinnati, Ohio, and with this concern he remained about ten years. He then came to Chicago as an attache of the local branch of the Wheeling Corrugating Company, of Wheeling, West Virginia. He remained with this company about thirteen years, and during the last year of this period was manager of its Chicago warehouse. In 1910 the Empire Iron & Steel Company was incorporated in Illinois, as a subsidiary of the corporation of similar title at Niles, Ohio. A year later the Brier Hill Steel Company was incorporated with a capital of twenty-five million dollars with headquarters in Youngstown, Ohio. This great corporation assumed control of the Empire Company business and continued operation in Chicago under the title of the Empire Iron & Steel Company for four years. In January, 1916, the parent corporation, the Brier Hill Steel Company, was incorporated also under the laws of Illinois, and the Empire name was then dropped in connection with the extensive business centered in this city. Of the Illinois Company George H. Alderdice is president, Joseph A. Rees vice-president

and treasurer, and James E. Parker secretary. The present company owns and operates extensive coal and iron mines, and Mr. Rees, the vice-president of the Illinois Company has the active management of the Chicago headquarters, with John D. Caldwell and E. E. Leonard as his able and valued assistants.

Mr. Rees holds to the political faith of the republican party, is a member of the American Iron & Steel Institute, the Central Manufacturing District Club and the Hardware Club of Chicago, as well as the South Shore Country Club. He is affiliated in an active and appreciative way with the time-honored Masonic fraternity and is a past master of Lakeside Lodge, Ancient Free & Accepted Masons, of Chicago. He is deeply interested in musical art and is vice-president of the American Choral Society.

H. Z. MALLEN & COMPANY

The title of this firm perpetuates the name of a sterling citizen who engaged in the manufacturing of furniture in Chicago nearly forty years ago, and it is gratifying to note that one of his sons, Herman W., who had been able coadjutor in founding the enterprise, has successfully continued the business under the original title.

In 1882 Herman Z. Mallen and his son Herman W. formed a copartnership and in a modest way began the manufacturing of high-grade frames for parlor furniture, the quarters occupied, at the corner of Canal and Polk streets, having an aggregate floor space of four thousand square feet. Both father and son were skilled artisans as cabinetmakers and brought to bear also energy, resourcefulness and executive ability, which, combined with honorable business ethics, conserved the rapid development of the business after there had come recognition of the high class of work produced and the general efficiency of service rendered. In the original factory it soon became requisite to retain a force of about thirty employes, and the products found ready demand on the part of Chicago furniture and upholstering concerns, the while each succeeding year recorded a steady and substantial expansion of the enterprise. Herman Z. Mallen continued his active association with this well ordered industrial enterprise until 1898, when he sold his interests to his son Herman W., who had been from the beginning, the junior member of the firm. In the meanwhile, in the year 1884, certain railway companies acquired the property where the Mallen factory was located, and this forced the firm to seek new quarters. Under these conditions the factory was removed to a building at the corner of Twelfth and Clark streets. but two years later the building was condemned for railroad purposes and the Mallen factory again had to be removed. At this juncture larger and better quarters were obtained in a building at the corner of Canal and Van Buren streets, and the substantial increase in the business and ere this convinced the members of the firm that expediency demanded the erection of a factory specially designed for their purposes. Accordingly, in 1887, the firm purchased property at 346-8 St. John's court, with a frontage of 120 by 155 feet, and here erected a substantial and modern industrial building of five stories, the same

giving an aggregate floor space of eighty thousand square feet. In this finely equipped plant operations were initiated under most advantageous conditions in the year 1888, and its facilities have been kept up to the best standard since that time.

The business of H. Z. Mallen & Company was confined almost entirely to the manufacturing of parlor-furniture frames until 1911, when a noteworthy expansion of the scope of the enterprise was effected, in consonance with the mature judgment and progressive policies of the owner of the business. At this time Herman W. Mallen began the manufacturing of complete sets of the highest-grade parlor and living-room furniture, all products being finished in the Mallen factory. So favorable a reputation has been gained and maintained by the concern that the new departure proved remarkably successful, and the steady growth of the business made necessary the gradual increase in the force of operatives in the factory until its productive activities now demand the retention of two hundred and fifty employes, the major number of whom are skilled artisans. The products of this well ordered industrial institution are sold entirely to the retail trade, and a corps of five or more traveling salesmen represent the concern throughout its trade territory, which now comprises virtually all sections of the United States, besides which a substantial business has been developed, and is constantly growing, in the Canadian provinces and in various South American countries. The business of the firm for the year 1884 aggregated about sixty thousand dollars, and the significant growth that has attended the enterprise in the interim needs no further voucher than the statement that the sales of H. Z. Mallen & Company for the year 1917 represented more than six hundred thousand dollars.

HERMAN Z. MALLEN

Herman Z. Mallen, one of the founders of the representative industrial enterprise described in the foregoing context, may consistently be said to have been one of the pioneer furniture manufacturers of the western metropolis, and as a sterling citizen of ability and worth he here achieved definite success, the while he held inviolable place in popular confidence and esteem. He was born and reared in the Kingdom of Hanover, Germany, and there learned the trade of cabinetmaking, in which he became an expert workman. He came to America as a young man and for a term of years he followed the work of his trade in Massachusetts and other eastern states. He became, however, one of the pioneers of Illinois, as he came to this state in the late '50s and established his residence at Frankfort, Franklin county. Nearly twenty years elapsed ere he came with his family to Chicago, this city having become his home in the year 1876. Here he passed the residue of his long and useful life, and he was seventy-three years of age at the time of his death, his wife, whose maiden name was Gertrude Dilhoff, having passed to eternal rest in the year 1904. Of their children two sons and one daughter are now living.

HERMAN W. MALLEN

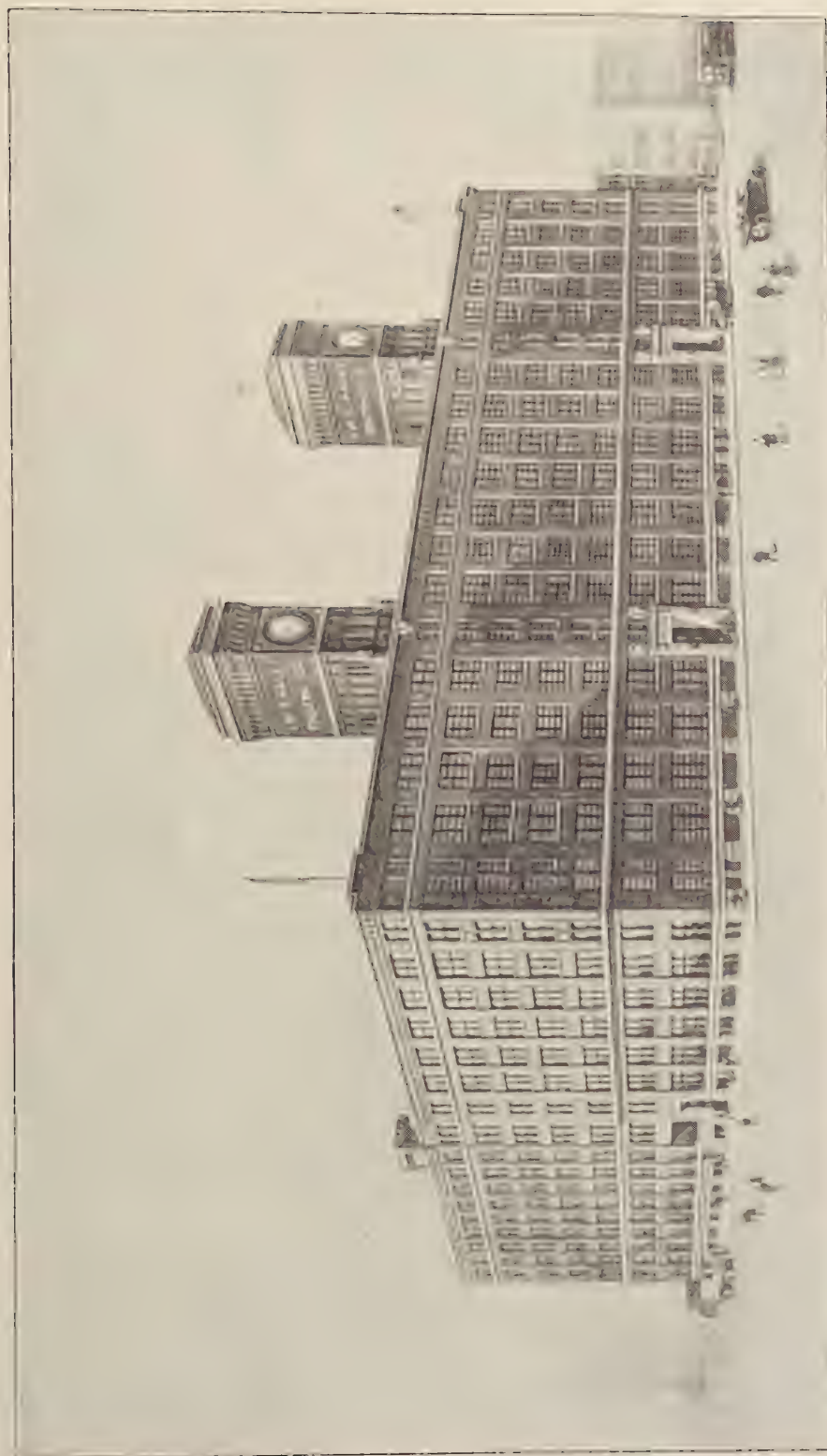
Herman W. Mallen, who is now sole owner of the important business in the founding of which he was associated with his father, has long held prestige as one of the substantial and representative manufacturers in Chicago, and an outline of the major part of his active business career is revealed in the preceding article descriptive of the business of which he is the owner and executive head.

Herman William Mallen was born at Newton, Massachusetts, on the 12th of August, 1856, a son of Herman Z. and Gertrude (Dilhoff) Mallen. He attended the public schools until he had attained the age of fourteen years, when he entered upon an apprenticeship to the trade of cabinetmaking. In a four years' apprenticeship he so improved his opportunities as to become a specially skillful and resourceful artisan, and thus he laid a secure foundation for the success which he was later to achieve as an independent manufacturer in the line of his trade, his broader education having been that acquired under the wisest of head-masters, experience. In 1874 Mr. Mallen came to Chicago, and here he worked at his trade and correlated service until 1883, when he became associated with his father in forming the firm of H. Z. Mallen & Company, due record concerning which has been given in a preceding article. He has been specially active and influential as a member of the Chicago Furniture Manufacturers' Association and has served as president of this organization. He holds membership also in the Chicago Association of Commerce and the Illinois Manufacturers' Association, has completed the circle of both York and Scottish Rite Masonry, and he holds membership in the Chicago Athletic Association and the Oak Park Country Club, the family home being in the suburb of Oak Park. Mr. Mallen is a staunch and well fortified supporter of the cause of the republican party and his religious faith is that of the Lutheran church.

On the 18th of April, 1886, was solemnized the marriage of Mr. Mallen to Miss Ellen Miller, Chicago, Illinois, and they have four children: Henrietta is the wife of Helmer A. Melun, of Chicago; Lillian is the wife of Frank E. Morency, of this city; and Misses Clara and Doris are members of the parental home circle.

THE W. F. HALL PRINTING COMPANY

It is the primary object and function of this publication to give specific recognition to industrial and commercial concerns that stand representative in their respective lines of enterprise, and it is with both fraternal appreciation and profound consistency that such recognition is given to the W. F. Hall Printing Company, which now has the largest printing plant in the world producing catalogues and magazines exclusively. In a prefatory way it is pleasing to make the following quotations from an article that appeared in the Chicago Sunday Herald of July 8, 1917, for the data thus presented indicate the broad scope and importance of the business for which the splendid and extensive new plant is being erected:



NEW PLANT OF W. F. HALL PRINTING COMPANY EIGHT STORIES HIGH AND COVERING AN ENTIRE CITY BLOCK

"The W. F. Hall Printing Company has started work on its new building, from plans prepared by Glaver & Dinkelberg, architects and engineers, to be erected on the block bound by Chicago avenue, Townsend and Kingsbury streets, extending back from Chicago avenue to the alley in the rear and connected to their present building on the Townsend street side, above the first story. The dimensions of the new building will be one hundred and thirty feet on Townsend and Kingsbury streets by three hundred and forty-one feet on Chicago avenue, corresponding in size with the present building of the company, which faces Superior street. With the new addition the entire block bounded by Chicago avenue, Townsend, Kingsbury and Superior streets will be occupied by this company. The new building will be seven stories and basement in height, of mill construction. It will be divided by fire walls into three sections and will be equipped with four large freight and two passenger elevators. A sprinkler system will be installed on every floor throughout the entire building. The foundations will be concrete and piles, the construction throughout to be what is known as heavy mill construction, consisting of timber columns, girders and joists, fireproof boiler room, concrete floors above. The exterior of the building corresponds, in its general proportion, with the lines of the present building, but has been modified in its detail. The material of the exterior will be red brick and Bedford stone. The water tanks required for this building will be enclosed and the features developed as towers, one of which has on its face a clock dial, the other a wind dial. The walls of these towers extend down through all stories, forming a fireproof staircase and elevator enclosure. The cost of the building is estimated at \$850,000.

"The great industry of the W. F. Hall Printing Company had its inception in 1893, so that it has had a steady growth of almost a quarter century. Some idea of the magnitude of the business may be obtained from the statistical report for the year 1916, which shows an output of 15,300,000 magazines, 14,245,000 periodicals, 12,248,000 catalogues, 21,950,000 supplementary catalogues, as well as thousands of individual orders of the smaller kind, requiring 56,583,000 pounds of white paper 885,000 pounds of printing ink, averaging a daily output of 188,610 pounds of catalogues and magazines. The management of this great industrial enterprise is in the hands of Robert M. Eastman, president and treasurer, and Edwin M. Colvin, vice-president and secretary."

The Western Trade Journal has spoken of the W. F. Hall Printing Company in terms of highest commendation, including the following consistent estimate: "It is an organization unsurpassed in resources, facilities and equipment." In the issuing of catalogues and magazines the establishment of this vigorous corporation figures as the world's greatest printing plant, and it affords eight acres of floor space devoted exclusively to the production of catalogues and magazines, with specially designed modern mechanical equipment for printing and binding.

In the year 1892 the late William Franklin Hall, whose name gives title to the present company, established a general commercial printing plant in a building at 21-25 Plymouth Court, and there operations were continued, with ever increasing success, until 1908, when removal was made to the fine building provided on the site of the present plant, the enlargement of which will be completed probably during 1918, making it one of the really great printing institutions of the world and one representing the ultimate provisions in connection with

modern exemplification of the "art preservative of all arts." The company now gives employment to one thousand persons, in the various departments of the great plant, and fifty per cent. of the number are expert artisans in the printing and binding trades, with their greatly diversified functions. Mr. Hall continued his active association with the business until his death, and his splendid initiative and constructive ability combined with technical and executive facility to make possible the development of the great enterprise which perpetuates his name and stands as an enduring monument to his memory.

ROBERT M. EASTMAN

As president of the W. F. Hall Printing Company Mr. Eastman is one of the foremost representatives of the printing industry in Chicago and he has been identified with the same since he was a lad of twelve years, when he entered upon an apprenticeship that gave him eventual comprehension of and familiarity with the mysteries and manifold details of the printing art. He was born at Anoka, Minnesota, on the 1st of December, 1869, and his early education was acquired in the public schools. It has been consistently said that the discipline of the printing office is equivalent to a liberal education, and this has been significantly proved in the career of Mr. Eastman. He came to Chicago in 1887 and here he continued to be employed at his trade until 1893, when he became associated in the organization of the W. F. Hall Printing Company, of which he has continued an interested principal during the intervening years. After the death of Mr. Hall Mr. Eastman became associated with Mr. Colvin in the purchase of the entire business, and he has since been president of the company. His progressiveness and circumspection have been dominant forces in the up-building of the great business and he is consistently to be designated as one of Chicago's representative captains of industry,—a citizen whose civic loyalty is on a parity with his energy and achievement in the field of practical business. He is actively identified with the Chicago Association of Commerce, and holds membership in the Chicago Athletic Association, the South Shore Country Club, the Chicago Automobile Club and other representative social and business organizations. The maiden name of his wife was Carrie Evers and they have two children, —William and Eunice.

EDWIN M. COLVIN

A resourceful factor in the development of the extensive industry of the W. F. Hall Printing Company, of which he is vice-president and secretary, Mr. Colvin was born at Buchanan, Michigan, on the 13th of August, 1867, and is a son of Wilkerson and Elizabeth (Fraser) Colvin. For his youthful education he was indebted to the public schools of Michigan, Ohio and Kentucky, and he was a lad of fourteen years when he initiated his apprenticeship to the printer's trade, in a newspaper and job office in his native village. In 1885 he came to Chicago, and here he was in the employ of various large printing concerns prior to associating



Rm, Eastman



Edmund M. Collins

himself with the W. F. Hall Printing Company, in 1899. In 1908 he formed an alliance with Mr. Eastman, the present president of the company, and purchased the interests of the founder, the late William F. Hall, and he has since been the vice-president and secretary of the company, besides which he is vice-president of the Central Typesetting Company, and president of Photoplay Publishing Company.

In politics Mr. Colvin gives his allegiance to the republican party, he is affiliated with the Masonic fraternity, including Oriental Consistory, Oak Park Commandery of Knights Templars and Medinah Temple of the Mystic Shrine, and he holds membership in the Chicago Athletic Association, the Chicago Automobile Club, City Club, Sportsmen's Club of America and is a life member of the Art Institute.

On the 28th of August, 1888, was recorded the marriage of Mr. Colvin to Miss Clara Fuller, of Buchanan, Michigan, and they have four children,—Jay Austin, Edwin Richard, Otis Willard, and Ruth Elizabeth. He and his wife are members of the Methodist Episcopal church and the attractive family home is at the corner of Sheridan Road and Thorndale avenue.

REGAL MUSICAL INSTRUMENT COMPANY

In the manufacturing of a diversified line of stringed musical instruments, with special attention given to mandolins and guitars, this company has attained large success and high reputation, and the products of its extensive manufactory have disseminated the fame of Chicago as a distributing center, as the fine instruments manufactured by the company find sale in all sections of the Union, besides which an appreciable export trade has been developed, especially in England and the Hawaiian Islands. The business was founded in 1908, by Frank Kordick and Anton Nelson, who purchased the minor stringed instrument department of the great musical instrument manufactory of Lyon & Healy, a well known concern that at that time abandoned this and other departments of its extensive manufacturing enterprise and concentrated in the building of pianos, harps and other fine products for which the celebrated firm name has long been eminent. In preparation for carrying forward the enterprise on an even more extensive scale than had Lyon & Healy, Messrs. Kordick and Nelson effected the incorporation of the business under the present title of the Regal Musical Instrument Company, Mr. Kordick becoming president of the new corporation and Mr. Nelson is treasurer. For the first two years the manufacturing activities of the new company were continued at the extensive Lyon & Healy plant, where was utilized sixteen thousand four hundred square feet of floor space, comprising three floors of one of the principal buildings of the plant. In assuming control of the business the new company retained twenty-five of the most skilled and expert instrument makers formerly in the employ of Lyon & Healy, and during the first twelve months the sales aggregated forty thousand dollars. The policy of the company from the beginning has been to sell its products exclusively to wholesale and jobbing dealers in musical instruments, and the general supervision of the business has been effectively placed under the

administration of the president, Mr. Kordick, who is himself a recognized expert in the manufacturing of high-grade musical instruments. In 1911, in order to provide the larger accommodations demanded by the constantly expanding business, the company purchased five city lots with a frontage of one hundred and twenty-five feet on West Grand avenue with a depth of one hundred and fifty-five feet. On this site was at once instituted the erection of a modern brick industrial building specially designed for the purpose for which it was to be placed in commission. The foundations were laid for the erection of a four-story structure with a seventy-five foot frontage, and in a preliminary way the building was carried to a height of two stories, the building as thus formed giving for factory and office purposes a total floor space of about twenty thousand square feet. At the time of this writing, in the summer of 1917, plans are being perfected for adding the other two stories for which the original design of the building calls, and this will, as a matter of course, double the area of available floor space and make the plant the largest in the world as devoted to the manufacturing of the smaller types of stringed musical instruments. Under vigorous and progressive policies and careful management the business of the company has shown a steady and normal growth, the force of employes varies from seventy-five to one hundred, and the annual business for the fiscal year 1916 attained to the noteworthy aggregate of one hundred and fifty thousand dollars. In following paragraphs will be found more specific mention of the president of the company, and this representative corporation consistently retains membership relations with the Illinois Manufacturers' Association.

FRANK KORDICK

The president and general manager of the Regal Musical Instrument Company, duly described in the foregoing context, was born in Meuern, a little town near Budweis, Bohemia, on the 3d of February, 1872, and is a son of Matthew Kordick, who came with his family to America and settled in Chicago in the year 1880. With limited financial resources Matthew Kordick here engaged in business as a wagonmaker, and later he achieved success in the operation of flour mills. He continued his residence in Chicago until his death, in 1890, at the age of sixty-five years.

Frank Kordick was a lad of eight years at the time when the family home was established in Chicago and here he continued to attend the public schools until he had attained to the age of fourteen years. The ensuing two years found him serving a thorough apprenticeship in the establishment of the Bowman Musical Instrument Company, and in the meanwhile he continued his education by regular attendance in the night schools. In 1888 he left the service of the company mentioned and found employment with the celebrated corporation of Lyon & Healy, one of the foremost in the world for the production and sale of musical instruments, and this change was made because he realized that with this concern his advantages and opportunities would be greater. For two years he gave his attention to all manner of odd jobs that were assigned to him in the Lyon & Healy factory, and at the age of eighteen years he was placed in

charge of contract work, with a force of fifteen men under his supervision. He remained with Lyon & Healy as a valued and skilled employe for twenty years, and his ambition and effective service did not lack for official appreciation, as shown by the fact that he was simultaneously in charge of four different departments of the concern's great manufactory. He became specially proficient in all things pertaining to the manufacturing of the smaller types of stringed instruments, and he severed his pleasing alliance with Lyon & Healy only when, in 1908, he became associated in the purchase of the stringed instrument department of the business, as noted in the preceding article. He has profited by the prestige of his association with Lyon & Healy but has also gained for the Regal Musical Instrument Company a fine standing and precedence that are definitely its own. He is a Republican in his political proclivities, a loyal and appreciative citizen of the western metropolis and an alert and successful business man who has achieved advancement through his own ability and well ordered endeavors.

June 16, 1897, recorded the marriage of Mr. Kordick to Miss Alma Smith, daughter of Theodore Smith of Chicago, and the one child of this union is Helen, born in 1899.

UNITED STATES MUSIC COMPANY

Under this corporate title is conducted one of the unique and successful industrial enterprises of the western metropolis, the functions of the concern being exclusively the manufacturing of music rolls for use in player pianos and other reproductive musical instruments. The modern plant of the company is situated at 2934-38 West Lake street, and its products have become recognized for their superiority,—representative of the highest grade known to the trade in this special field of enterprise. Under the present title the business was founded in the year 1903, and the original manufactory was situated on Plymouth Place. In 1907 control of the business was assumed by the present organization, and the factory was removed to a building at the corner of Milwaukee and Western avenues. In 1910 the company erected its present modern plant, the building being seventy by one hundred feet in lateral dimensions and three stories in height. At the rear of the building the company owns an additional one hundred and forty feet of ground, so that provision may readily be made for the extension of the building. The personnel of the present executive corps of the company is as here noted: Luther P. Friestedt, president; C. P. Stringfield, Vice-president; and Arthur A. Freistedt, secretary and treasurer. Arthur A. Friestedt is the active head of the business and he it was who effected the organization of the company. In the manufacture and sale of perforated music rolls the trade of the company is principally of domestic order, though an appreciable foreign business has been developed. In the factory the corps of employes averages about seventy-five persons and the annual output has now attained to the noteworthy aggregate of about one million three hundred thousand rolls. The company is incorporated under the laws of Illinois and bases its operations on a capital stock of two hundred thousand dollars. The company controls patents on the rubber spoolends utilized on the music rolls, and the mechanical equipment of the factory is of the best modern type throughout.

ARTHUR A. FRIESTEDT

Arthur A. Friestedt, treasurer and general manager of the company, was born in Chicago, on the 8th of January, 1884, and is a son of Luther P. Friestedt, who, as a civil engineer and a manufacturer, has become a prominent figure in Chicago industrial circles, where his capitalistic interests are large and varied, and who was alderman from the Thirteenth ward of the city from 1900 to 1905; he is president of the United States Music Company; the L. P. Friestedt Company; Cullen, Friestedt & Company, engineering contractors; and the British Steel Piling Company, of London, England; besides which he has achieved high repute as an inventor.

After having completed the curriculum of the public schools Arthur A. Friestedt took an effective course in the Lewis Institute, one of the leading schools of technology in Chicago. Thereafter he was some time in the employ of the Nye Steam Pump Company, and later he was with the Interlocking Channel Bar Company. Prior to these industrial alliances he had gained practical experience of valuable order through his service, in a clerical position, with the Fort Dearborn National Bank. In 1906 Mr. Friestedt allied himself with the Carnegie Steel Company, of Pittsburgh, Pennsylvania, where he gave effective service in the special bureau established to promote the sale of sheet-steel piling that that represented an invention on which he and his father had taken out patents, these patents later being assigned to the Carnegie Steel Company. After remaining about one year with the Carnegie Company Mr. Friestedt returned to Chicago, where he has since been the efficient and progressive treasurer and general manager of the United States Music Company. He is also president of the Friestedt Manufacturing Company, which is engaged in the promotion and manufacturing of automobile inventions. He is a popular member of the Chicago Athletic Association, is affiliated with the Masonic fraternity, and is commodore of the Pistakee Yacht Club. He is an enthusiast in aquatic sports and is the owner of several sailing and motor boats.

THE ILLINOIS PAPER BOX COMPANY

This is another of the representative Chicago industrial institutions that has been developed from most modest proportions to the status of recognized priority as one of the largest and most prosperous of its kind in the city. In 1897 Harris A. Crofts, the president and general manager of the company at the present time, formed a partnership with Anthony Reed, and, with an available capital of less than two thousand dollars, they began the manufacturing of paper boxes in a building at the corner of Clinton and Lake streets, where they utilized at the start only two thousand square feet of floor space and where they gave employment to only five workmen, the partners applying themselves early and late and usually giving sixteen hours daily to their business, in order to place the same on a secure footing. Theirs was the true vision of future possibilities and their ambition was one of action and self-denial. They worked assiduously during the first two years and by that time had gained a

measure of success that augured well for consecutive advancement. At the original quarters, 66 West Lake street, they continued operations nine years and then came into evidence the best assurance of success, in that their enterprise had so expanded in scope that it became necessary for them to seek larger factory quarters, though in the meanwhile they had increased their floor space to nine thousand square feet. At the expiration of the period noted the firm removed to 73 Desplaines street, in 1904, where they placed in requisition sixteen thousand square feet of floor space and increased their corps of employes to forty persons. In 1907 still larger accommodations were required and removal was made to 122 North Ada street, where was purchased a building that, with the addition made by the firm, gave an aggregate floor space of twenty-three thousand square feet, the pay roll at this juncture listing seventy-five employes. In January, 1915, owing to his impaired health, Mr. Reed retired from the firm, in connection with which his profits had been of such volume as to enable him to live in comfort the remainder of his life,—this fact being significant as showing the splendid development of the business to which he had given unremitting attention. With his retirement and the purchase of his interest by Mr. Crofts, heavier responsibilities devolved upon the latter, who became virtually the controlling owner of the business, the title of the Illinois Paper Box Company having been adopted at the time when the business was incorporated, in 1903. In January, 1915, H. Carson Crofts, a son of the president of the company, was elected secretary and Harold Dailey became vice-president, the latter having further executive functions in his service as sales manager of the company.

In February, 1917, the company removed its well equipped plant to its present large and eligible quarters, and concerning this change the following statements have been written: "Instances of far-sighted policy are numerous among Chicago merchants and manufacturers. One of the latest appears in the announcement of a notable expansion by the Illinois Paper Box Company, located for a number of years on North Ada street, where a steadily increasing trade has been developed for its products. The company has just leased the second and third floors of the large industrial building at 1323-33 Carroll avenue, for ten years, at a term rent of \$54,650, the lessee company to take possession about January 1. when certain alterations and improvements are completed. The new business home of the Illinois Paper Box Company will afford about double the space of its former quarters and will have many superior advantages in facilities and equipment. With capacity for production greatly increased, and service organized to the highest point of efficiency, the company will be in a position to profit by the prosperous business conditions now prevailing throughout America. The products comprise a full line of paper boxes of all sizes and descriptions, and in the manufacture and sale of the same this company has become one of the leading factors. The company was established about twenty years ago and its growth has been along permanent and substantial lines. The management is in the able and experienced hands of Harris A. Crofts, president and general manager, and he is a man of energy and initiative, typical of the Chicago spirit of enterprise. The company's establishment enjoys an excellent reputation for honorable methods and satisfactory service."

In connection with the above statements it may further be said that the company has installed in its new plant the most modern additional machinery and approved labor-saving appliance, with the result that it is able to meet the demands of a constantly expanding trade. Quality and service have been the watchwords of the concern from the time of its inception, and thus normal and legitimate growth has attended the enterprise from the time when it was initiated by two ambitious young men who depended upon their own efforts rather than capitalistic reinforcement in making their way forward to the goal of commercial success. This progressive company is represented on the membership rolls of the Illinois Manufacturers' Association.

HARRIS A. CROFTS

Harris A. Crofts, president of the Illinois Paper Box Company, was born at East Liverpool, Ohio, in 1867, and in his youth received the advantages of the public schools. In his independent career in Chicago he has effectively profited by earlier experience in connection with the line of industrial enterprise of which he is now a prominent exponent, and he is one of the loyal and aggressive business men of Chicago. His political support is given to the republican party, he is affiliated with the Masonic fraternity, and holds membership in the Mystic Athletic Club, and one of the early members of Chicago Rotary Club.

On the 25th of April, 1894, was recorded the marriage of Mr. Crofts to Miss Mary Carson, the wedding ceremony having been performed in the city of San Francisco, California, and Mrs. Crofts' father, Thomas Carson, having come to America from Manchester, England. Mr. and Mrs. Crofts have two children,—H. Carson, and Emma.

WILLIAM W. NUGENT & COMPANY

In the manufacturing of oiling devices and systems this concern holds a position of unmistakable priority, owing to the acknowledged superiority of its products, and it has proved in its unequivocal success the practical value of the improved oiling devices, including oil filters, Telescopic and Anti-Stand centrifugal oiling device, oil filters and oiling systems, that were invented and patented by William W. Nugent, the founder of the business and chief executive of the company from the time of its incorporation. Mr. Nugent is the inventor and patentee of twenty-four distinct devices utilized in the lubricating of steam and gas engines and prior to establishing the present business he had gained wide and varied experience as an expert machinist and as a close student of mechanical subjects. On his technical, inventive and executive ability has been based the splendid success of the corporation of which he is now president and which is one of the most important of its kind not only in Chicago but also in the entire Union. The offices, and the distributing and sales departments of the business

are established at 146-148 West Superior street, and the company's foundry and sheet-metal works occupy separate buildings at Grand avenue and Illinois street, where is utilized an aggregate floor space of many thousand square feet, and where is retained a corps of forty or more employes, the most of whom are skilled mechanics. The more specific record concerning the company may be more effectively given in direct connection with the following review of the career of its president.

WILLIAM W. NUGENT

Skilled as a mechanical engineer and resourceful as an inventor, Mr. Nugent has proved also his distinctive business ability and has been the builder of the substantial industrial and commercial enterprise of which he is now the administrative head. He was born at Belmont, a village in Middlesex county, Ontario, Canada, on the 28th of January, 1861, and in his native province he received in his youth excellent educational advantages, including a thorough course in mechanical engineering. His ambition led him to spare no pains in furthering his technical knowledge through practical application, and thus it was that, at the age of twenty-one years, he came to the United States and established his residence in the city of Milwaukee, Wisconsin, where he entered upon an active apprenticeship in the great engine manufactory of Edw. P. Allis & Company, which was succeeded by the present corporation of the Allis-Chalmers Mfg. Company. Here he learned with utmost thoroughness and under the best possible conditions the trade of machinist, his connection with the concern having continued eight years. He then assumed a position as salesman for the Nordburg Company, of Milwaukee, and two years later he was advanced to the position of sales manager of the company's engine department. Later he accepted a similar post with the Hoffman & Billings Manufacturing Company, of the same city, but upon the death of Mr. Hoffman, eighteen months later, the engine department of the business was discontinued, under which circumstances Mr. Nugent severed his alliance with the company. In 1893 he came to Chicago and as a consulting engineer opened an office in the Home Insurance building. He continued in successful professional work along this line for the ensuing four years and then, in 1897, he founded in a small way the business of which he is now the head. As a practical machinist and as a man of distinctive inventive proclivities, he had given much time and thought to the improving of oiling devices, and upon his inventions in this line has been built up the successful business of the company that bears his name.

In initiating his independent manufacturing business Mr. Nugent secured small quarters in a building on Clinton street, near Jackson boulevard, where, with one employe, he opened a machine shop. At that location operations were continued six years, and in the meanwhile the business had so expanded as to justify, and virtually make imperative, the removal to larger quarters. For the ensuing seven years the business was conducted at Randolph and Canal streets, and a few years later possession was taken of the present building occupied by the company at 146-148 West Superior street, the manufacturing departments

of the business being now established at the corner on Illinois street and Grand avenue as previously noted.

The first patent secured by Mr. Nugent on any of his inventions was granted in 1899,—for an improved anti-stand dust-proof crack-pin center, for use on steam and gas engines. In 1906 he obtained letters patent on his anti-packed telescopic cross-head pin and eccentric oil devise for steam and gas engines, and in 1912 he secured addition patents on improvements made by him in this connection. In the latter year also he received a patent on his improved oil filters, used in the filtration of lubricating oil for engines. In 1914 he patented his specially valuable oiling system, with return gravity pressure, and all of these devices, of the highest grade, are manufactured by William W. Nugent & Company. The products of the Nugent factory have become known and valued in both the United States and foreign lands, and they are sold in all parts of the world where gas and steam engines are used. The company employs a special representative in the important industrial city of Carlisle, England, another at Montreal, Canada, and direct agencies are established also in all of the larger cities of the United States.

Mr. Nugent is an enthusiast in yachting, having owned the "Allis", and through this sterling sport he finds his principal recreation. He is an active member of the Chicago Association of Commerce and the Chicago Motor Boat Club, Lincoln Park Yacht Club as well as the Swedish Club of Chicago, British American Club and Canadian Club and in politics he gives his support to the cause of the republican party.

AUDEBERT WALL PAPER MILL

Under the above corporate title is conducted one of the successful and important industrial enterprises contributing to the commercial prestige of Chicago, and the same is entitled to special recognition in this publication. The business was founded in 1901, by Emil A. Audebert, who has continued as president of the corporation to the present time. In the year mentioned articles of incorporation were filed and in due course a charter was granted to the Audebert Wall Paper Mill, the stipulated capital stock being fifty thousand dollars and Mr. Audebert, as already noted, becoming the executive head. Pearl W. Coombs was chosen vice-president, and Lowel R. Burch became secretary and treasurer. Noteworthy success attended the new industry and it soon became expedient to increase the capital stock to one hundred thousand dollars; a year later the capital was increased to one hundred and twenty-five thousand dollars.

Preparatory to initiating operations in the manufacturing of wall paper the company purchased a tract of land with a frontage of one hundred and forty feet on Foster avenue, at the corner of West Ravenswood Park, and with a mean depth of two hundred and seventy feet. On this site had been established a brick manufactory, for the accommodation of which had been erected a substantial two-story building that gave an aggregate floor space of two hundred and sixteen thousand square feet. This building became the manufacturing plant of the new company and it was remodeled and supplied with the best

type of modern machinery and accessories for the manufacturing of high-grade wall paper, the original force of operatives in the factory being fifty in number. One of comparatively few institutions of the kind in Chicago, the Audebert Wall Paper Mill instituted the manufacturing of products of maximum excellence in design and quality and made so efficient its commercial policies that the business rapidly and substantially expanded in scope and importance. In the year 1904 it was found necessary to increase the mill accommodations, and to the plant was erected an addition sixty by two hundred and seventy feet in dimensions and one story in height, this building giving an additional floor space of more than sixteen thousand square feet. In 1909 the company acquired vacant property on the opposite side of Foster avenue, and on this site was erected a modern warehouse building and one for office purposes, an additional floor space of twenty thousand square feet being thus gained. In the factory employment is now given to an average of fully one hundred persons, the major number of whom are skilled workmen, and four traveling salesmen represent the company through its trade territory, which comprises the states of the central and midwestern part of the United States, beyond which limitations the business is constantly being extended. In the initial year of operation the factory turned out two hundred and fifty different styles of wall paper, and from time to time additions have been made to the output, until fully five hundred different designs of paper are now manufactured, in both the finest and the medium-priced grades. The sales for the first year approximated one hundred and eighty thousand dollars, and the splendid advance that has since been made is signified in the statement that the business for the year 1917 aggregated more than three hundred thousand dollars. This represents one of the well ordered and important industrial enterprises of the western metropolis and it is notable for efficiency of organization and control as well as for the superiority of products as gauged by the best modern standard in this field of enterprise. The officers of the corporation at the present time are as here noted: Emil A. Audebert, president; P. W. Combs, vice-president; Lowel R. Burch, secretary and treasurer.

EMIL A. AUDEBERT

Emil A. Audebert, president and founder of the Audebert Wall Paper Mill, was born in the city of Turs, France, on the 9th of February, 1850, a scion of one of the old and honored families of that section of beautiful France. In his native city he received excellent educational advantages, and at the age of eighteen years he went to the city of Paris, where he obtained a place as salesman in a leading retail dry-goods establishment. In 1875 Mr. Audebert wedded Miss Marie de Caen, daughter of Cyprian de Caen, a prominent wall-paper manufacturer in Paris, and upon thus assuming marital responsibilities Mr. Audebert forthwith took a position in the paper mills of his father-in-law. Here he so applied himself as to gain a thorough knowledge of the technical details of wall-paper manufacturing, besides fortifying himself excellently also in knowledge of the commercial phases of the business. This effective alliance continued until 1887, when Mr. Audebert came with his family to the United States and set-

tled in New York city. There he took up professional work as an expert colorist. Whiting & Sons Company, manufacturers of wall paper, and when this company retired from business, three years later, he assumed a similar position with the William Campbell Wall Paper Company. While thus engaged he was tendered a more lucrative position with a newly organized corporation, the Badger Wall Paper Company, of Kaukauna, Wisconsin, and he accepted the proffer, which involved his removal to the Wisconsin city in which the new industry was established. He assumed the active supervision and management of the manufactory and continued as the efficient general superintendent for this company for two years, when the business of the concern was absorbed by a large wall-paper syndicate. At this juncture Mr. Audebert went to Cleveland, Ohio, where he supervised the equipping and placing in operation of a wall-paper factory for William Bailey & Sons. He continued as general manager of the plant for three years and then resigned his position to remove to Chicago and engage in the same line of business in an independent way. Upon a very modest scale he began the manufacturing of wall paper in a building at the corner of Fortieth street and Wentworth avenue. For this purpose he effected the organization of the firm of the Illinois Wall Paper Manufacturing Company, which was incorporated the same year. Eight months after operations had been instituted, the plant was destroyed by fire, and in the face of this disaster the company permitted its organization to lapse. In a building on Clinton street, between Madison and Washington streets, Mr. Audebert resumed manufacturing of wall paper, and in the new enterprise he gained the capitalistic and personal co-operation of Frank Kelly, the new enterprise being initiated under the present title of the Audebert Wall Paper Mill. A year later the two partners sold their machinery and good will of the business and purchased the site of the present modern plant, extending from 1800 to 1812 on the north side of Foster avenue and from 1807 to 1819 on the south side of that thoroughfare, the latter property having been added to the plant later, as noted in the preceding article, descriptive of the business. Here operations have since been continued with unqualified and cumulative success, and Mr. Audebert has gained secure vantage-place as one of the substantial manufacturers, representative business men and progressive and public-spirited citizens of Chicago. He is a stalwart supporter of the cause of the Republican party, holds membership in the Chicago Association of Commerce and is a popular and appreciative member of the Hamilton Club. He is a recognized authority in all things pertaining to wall-paper manufacturing, is a man of unassuming and gracious individuality and has gained in the city of his adoption a wide circle of friends in both business and social circles. Germaine, the only child of Mr. and Mrs. Audebert, was born in New York city and is now the wife of James A. Lauletta, of Chicago, the one child of this union being a winsome little daughter, Germaine Lauletta.

At the age of nineteen years when the Franco-Prussian war was declared, Mr. Audebert enlisted as a Volunteer and served during the entire war, participating in thirty-six battles, receiving the medal of honor for bravery from the French Government for taking a prisoner in the midst of a battle at Loigny, December 2d, 1870. There were 105 in his company, and at the close of the engagement there were but thirty-five left living. He also had two brothers, Edward and Albert in the Franco-Prussian War, both now deceased. In the

present European War Mr. Audebert has fourteen relatives fighting with the French Army.

THE FISCHER FURNITURE COMPANY

At 406 North May street is to be found the office of this representative manufacturing corporation, and the plant in connection with the general office is one of the most modern facilities and equipment. The company was organized by Frederick P. Fischer, Jr., who is its president, and who has proved himself one of the vigorous and progressive business men of his native city, with secure vantage-ground as one of the leaders in the manufacturing of high-grade furniture in the middle west.

Frederick P. Fischer, Jr., was born in Chicago on the 24th of February, 1875, and is a son of Frederick and Mary F. (Nolan) Fischer, the former of whom still resides in Chicago, at the venerable age of sixty-nine years, and the latter of whom passed to the life eternal in 1910. Mrs. Mary F. (Nolan) Fischer was a daughter of John Nolan, who was one of the early settlers in Chicago, Frederick P. Fischer, Sr., was born on a farm in Milwaukee county, Wisconsin, and was a youth in his 'teens when he came to Chicago, his determined purpose having been to enlist in an Illinois regiment and go forth as a soldier of the Union in the Civil war, which was in progress at the time. On account of his youth he was advised by the enlisting officers, who rejected him, to return to the farm and split wood, but on the contrary he found employment in the Chicago chair factory of his maternal uncle, John Schulein, who was a representative manufacturer of the city both before and after the war. Young Fischer here learned the trade of cabinetmaker and after remaining several years in the employ of his uncle he became animated with a desire to gain a broader knowledge of general furniture making, with the result that he found employment in the factory of Nettleton & Peek. Later he was employed as a skilled workman by other local furniture manufacturers, and for many years he has held the position of foreman in the establishment of Balkwill & Patch Furniture Company. He is now with the Fischer Furniture Company and has been since its organization. Of his ten children two died in infancy, and of the surviving children four are officers of the Fischer Furniture Company, of which, as previously noted, Frederick P., Jr., is president. John Leroy Fischer is vice-president of the company; Miss Alice D. Fischer is treasurer; and Frank S. Fischer is secretary.

Frederick P. Fischer, Jr., the fourth in order of birth of the ten children, received his early education in the Chicago public schools. When about thirteen years of age Mr. Fischer obtained employment as a machine hand in the factory of the Balkwill & Patch Furniture Company, on Fullerton avenue, his father being a foreman in this establishment. There he remained sixteen years. In 1904, at the time of a strike on the part of the employes of this company, Mr. Fischer began to formulate definite plans for engaging in the manufacturing of furniture in an independent way. He had saved from his earnings several hundred dollars, and finally he presented his plans to two of his fellow employes, Arthur McDowell and Jacob Scherer, who likewise had a small reserve capital,

and they entered into a conference with John McLelland, a traveling salesman for the Balkwill & Patch Furniture Company and a man of appreciable financial resources. The result of the councils of the four young men was that in August, 1904, they effected the organization of the Chicago Mission Furniture Company, which was incorporated with a capital stock of five thousand dollars. In a building at Wells street and Institute Place the new company rented ten thousand square feet of floor space, and, with a force of twelve employes, engaged in the manufacturing of the mission type of furniture, the popularity of which was then at its height. The success that attended the new venture was such that three months later it was found imperative to increase the floor space of the factory, and in 1906 further expansion led to the removal of the plant to 1949 to 1959 Clybourn avenue, where was effected the lease of a five-story industrial building that gave an aggregate floor space of sixty-two thousand five hundred square feet. Here the force of employes was increased to one hundred operatives, and with this company Mr. Fischer continued as the executive head and general manager until 1910, when he sold his interests to advantage. In March of that year he organized the Fischer Furniture Company, which was duly incorporated under the laws of Illinois and with a capital stock of fifty thousand dollars. The new corporation rented three floors of a building at 406-8 North May street, where was available a floor space of fifteen thousand square feet. In August of the same year the company purchased this three-story building, and forthwith an addition was made to the structure. In 1915 it was found expedient to make another addition to the plant, and in May, 1916, was completed still another addition, the result being that the admirably equipped manufacturing plant now affords a total floor space of sixty thousand square feet, besides which are maintained large yards and storage rooms in connection with the factory proper. The Fischer Furniture Company gives attention principally to the manufacturing of high-grade rocking chairs, library tables and complete library suites, and the trade of the concern has been extended from Maine to California, the while the average number of employes is one hundred and sixty. The sales for the first year amounted exactly to \$16,152, and the splendid growth of the industry is indicated when it is stated that the transactions for 1917, as determined by present conditions, will be in excess of four hundred thousand dollars. This large and substantial business has been developed upon merit and without employing of any direct traveling representatives or other salesmen retained on salary. The products have constituted the most effective advertising and the success of the enterprise has been won in a normal and legitimate way. The company is represented in membership in the Chicago Furniture Manufacturers' Association and the Furniture Exhibitors' Association. The president of this progressive corporation is the inventor and patentee of the Fischer day bed, which is manufactured by the company and the attractiveness of which has brought to it high popular favor, with the result that the sales of the product have attained to substantial proportions, with a constantly increasing tendency.

Frederick P. Fischer, Jr., is affiliated with both the York and Scottish Rite bodies of the Masonic fraternity, as well as the adjunct organization, the Mystic Shrine, and he has gained for himself assured place as one of the representative figures in the manufacturing and commercial circles of his native city.

John L. Fischer, vice-president of the Fischer Furniture Company, was



Frederick P. Fischer

born in Chicago on the 12th of March, 1888, and the public schools afforded him his early educational discipline. Prior to 1914 he had been identified with the automobile business in Chicago, but in that year he was elected to the position which he now holds with the Fischer Furniture Company. His wife, whose maiden name was Evelyn Kimball, was born and reared in Atlanta, Georgia, and they have one daughter, Alice Idell.

Alice D. Fischer, who is the efficient and popular treasurer of the Fischer Furniture Company, was born in Chicago on the 3d of November, 1875, and has proved a most able coadjutor of her brothers in the development of the business of the company. When she was but fourteen years of age Miss Fischer obtained a position in the offices of the Balkwill & Patch Furniture Company, with which she continued her association for a quarter of a century and with which she held for many years the position of bookkeeper and confidential secretary. She resigned her position in 1913 and has since been treasurer and office manager of the Fischer Furniture Company.

Frank S. Fischer, secretary of the company, was born in Chicago on the 30th of December, 1890, a brother to Frederick P., John Leroy Fischer, with which he has been identified from the time of completing his school work and initiating his association with practical business affairs.

AMERICAN BREAD WRAPPING COMPANY

In the manufacturing of the highest grade of artistic waxed paper wrappers for use by the larger and more important bread baking establishments the company whose name initiates this review has developed a very extensive business that extends into all parts of the United States. The superiority of the products of the well equipped factory of the company is uniformly recognized and the artistic designs devised for use on the wrappers have added materially to the appreciative demand for the goods. This company is doing a splendid work in advancing the proper sanitary wrapping of the food that is the veritable "staff of life," and thus has exercised educational as well as commercial functions, besides contributing its quota to the industrial precedence of the western metropolis. The province of this publication is to give special recognition to such concerns, and it is gratifying to enter a succinct record concerning the American Bread Wrapping Company and also concerning its president, who has been the dominating figure in the upbuilding of the far-reaching and important business.

The business was founded in 1910, by Emil Frisch, who is the president of the company and who has from the beginning directed its policies with characteristic energy, circumspection and progressiveness. The enterprise had a modest inception but its growth has been substantial and consecutive, owing to the high grade of the products and the correct business methods that have been employed at each successive stage of advancement. In 1912 the company was incorporated with a capital stock of five thousand dollars, and in 1914 was effected a reorganization, to meet the exigencies of the constantly increasing trade. At this juncture the capital stock was raised to fifty thousand dollars.

The original officers of the company were as here noted: Emil Frisch, president and treasurer; H. E. Tonkin, secretary. The first headquarters of the business were at the corner of Austin and Orleans streets, where was utilized a floor space of six thousand square feet, the corps of employes averaging from fifteen to twenty. Prior to the incorporation of the business Mr. Frisch had personally designed labels and other unique and artistic features of wrappers, and in the initial stages the wrappers were manufactured for him by established label manufactories. He has made a close study of everything pertaining to the line of enterprise through the medium of which he has achieved definite success and prestige, and in the formative period he planned specially designed machines for the producing of the wrappers of the high standard which he had set. In 1912 these special machines were installed in the company's plant and they have proved a most valuable adjunct in connection with the development of the business. After incorporation the company considered that it had made substantial advancement when its annual sales had reached an aggregate of seventy-five thousand dollars, and an idea of the splendid progress that has since been made is conveyed when it is stated that the sales for the year 1916 were in excess of two hundred and fifty thousand dollars. In 1914 the plant of the company was removed to more commodious quarters, at Twenty-second street and Union avenue, absorbing the Waxcoat Paper Company, where a floor space of ten thousand square feet was made available for the manufacturing work, the force of employes being at this juncture increased to thirty men.

In November, 1915, to meet the demands of the cumulative business, the company found it imperative to again make a change of location, and at this time there was leased an entire floor in one of the most modern factory and office buildings in Chicago, where it thus obtained an aggregate floor space of sixteen thousand square feet, all of which is required for the accommodation of the business. Employment is now given to a regular corps of thirty-five to forty operatives and assistants in the manufactory, and the location of the factory is at 353-361 East Ohio street, the company maintaining its sales offices at 505 Fisher Building, at the corner of Dearborn and Van Buren streets, in the far-famed elevated railway "Loop" district of Chicago.

EMIL FRISCH

The vigorous and purposeful president of the American Bread Wrapping Company was born in the city of Vienna, Austria, on the 28th of June, 1873, and in his native land he received a thorough collegiate education. He made his first visit to the United States in 1893, as one of the Austrian Government representatives to the World's Columbian Exposition, which did much to further the fame of Chicago. After the close of the exposition Mr. Frisch made important business trips to various parts of the United States before he decided to establish a permanent home in America and crossed the ocean fourteen times. In 1901 he made permanent settlement in Chicago, where he engaged in the importing business. Later he gave his attention to the malting business, from which he finally retired to give his entire time to upbuilding of the business of the company.

of which he is now president. It is uniformly conceded that at the present time the American Bread Wrapping Company is the largest and most important concern engaged exclusively in the manufacturing of waxed paper wrappers for bread that is to be found in the entire country, and the substantial business has been built up on honor in the fullest sense, while it stands distinctively to the credit of its aggressive and able founder, who has entered fully into the spirit of American institutions and customs and whose civic loyalty is of the most insistent order. He is one of the active and popular members of the Chicago Association of Commerce, a liberal and progressive business man, a citizen whose circle of friends in Chicago is coincident with that of his acquaintances.

THE PAGE BOILER COMPANY

In the broad and multifarious industrial activities of Chicago there is incidentally to be recorded the development of many an important manufacturing enterprise that had inception in a most modest way and that has shown the intrinsic elements of growth and stability that have secured basis on superiority of products and efficiency of service. Such conditions have been notably evidenced in the history of the Page Boiler Company, manufacturers of the now celebrated Page-Burton sectional water-tube boilers, the many superior points of which have brought them into extensive use in large as well as minor manufacturing institutions in all parts of the Union, besides which the basic principles are employed also in the manufacturing of the Page-Burton marine boilers, on which patents are pending at the time of this writing, in 1917. Though the company, with a factory of large capacity and most modern facilities, formerly gave attention to the manufacturing of tanks, smoke stacks, steel cylinders and pipe, and a general line of sheet-iron and steel-plate construction, it has been found commercially expedient to confine operations at the present time to the manufacturing of the Page-Burton boilers alone, so large and constantly increasing is the demand for the same. The production of these boilers has marked a distinct advance in economical steam production, which represents the skilled development work carried forward by Milton E. Page, Jr., president of the company, and by Thomas H. Burton, the inventor of the Page-Burton sectional water-tube boilers. The manufacturing plant of the company is established at 815 to 819, inclusive, Larabee street, and in its equipment and capacity is far removed from the little factory in which Mr. Page began independent operations in the year 1904.

Fortified thoroughly by previous experience of technical order, Mr. Page, in the year above mentioned, began the manufacturing of boilers in an individual way and with John T. and Adolph T. Johanson as his valued assistants. In the following year the business was incorporated under the present title of the Page Boiler Company, and the personnel of the executive corps has remained unchanged from that time to the present, namely: Milton E. Page, Jr., president; John T. Johanson, vice-president and general superintendent; and Adolph T. Johanson, secretary. Upon incorporation in 1905, under the laws of Illinois, the company based its operations on a capital stock of fifteen thousand dollars.

The original "factory" in which Mr. Page initiated his new enterprise consisted of a small barn and a portion of the basement of another building. At that time all of the boilers produced in the little establishment were made entirely by hand, and so excellent was the workmanship that the reputation of the concern grew apace, with incidental development of the business to appreciable volume. With success thus virtually assured, Mr. Page and his associates were fully justified in effecting the incorporation of the business about one year after it was founded, and the force of operatives was gradually increased until the number of employes was about thirty skilled mechanics. The trade of the company was in the initial period confined to local limitation, but gradually there came a substantial demand for the Page boilers in other states than Illinois. The present factory gives evidence of the substantial development that has attended the industry, additional space having been acquired from time to time until the modern plant now utilizes to the fullest degree fifteen thousand square feet of floor space. Modern machinery soon did away with the old method of manufacturing the boilers by hand, and in 1914 commenced the manufacture of the boiler known as the Page-Burton water-tube boiler. Since that year the operations of the company have been confined exclusively to the manufacturing of this improved type of boilers, which are now sold in all parts of the United States and which have so definitely proved their superiority, efficiency and economy in operation as to gain a reputation that constitutes the company's best advertising and most stable commercial asset. Concerning the products of the company the following general description is entitled to reproduction in this connection:

"The Page-Burton sectional water-tube boiler is designed to produce the maximum of power within a minimum of space. It consists of a twin set of boilers in one steel enclosure. In this enclosure is a chain grate, self-cleaning combustion chamber, three-pass baffle and oscillating soot-blower, five minutes operation of which will operate every section. The boiler is built to suit any condition in floor space and height, and can be fired from either side, and is adapted to any style or type of stoker. It is possible to keep the boiler clean at all times without removing header caps, and it can be washed out as quickly as a fire-tube boiler. Due to pitch of short, straight tubes and circulation, all sediment forms into large mud-drums which may be blown down when necessary. Boilers are built in about two hundred and fifty different sizes and, if desired, with a working pressure of two hundred and fifty pounds.

"The Page-Burton sectional water-tube boilers are so designed that all heating surface is directly exposed to radiation. It is not a total area of the heating surface that determines the efficiency of the boiler, but the cross-sectional area with respect to the flow of heat passages; they are split up vertically and horizontally; flues of small diameter are more efficient, due to more frequent contact from tube to tube; the section tubes are straight and so clustered over the gases that in a limited cubical space a large effective heating surface is accumulated; the alternate crossing of the sections acts as a vertical and horizontal baffle in the center of the boiler, which causes the gases to expand to the outer ends of the tubes' surface. On each side of the boiler, at the top, special baffles are provided, for as the gases pass in through the main tubes these baffles control the gases and cause them to pass beneath the steam and water drum. Therefore a balance

expansion gas boiler accomplishes the same in a one pass as other types of boilers do in three pass. By actual pyrometer readings, a most uniform baffling of the gasses is accomplished. The advantages of a sectional tube boiler are considered of the highest type, due to each section being free to expand independently of the other section. Each section gives a complete circuit in water circulation, has a separate water feed from the upper drum, and contains a separate intake to the steam drum; therefore a boiler containing thirty sections has thirty water-feeds coming into the sections and thirty deliveries coming into the steam and water drum. The coming in of these separated tubes results in a most efficient and strong-steaming boiler. A positive and efficient circulation assures that all portion of the pressure parts will be at approximately the same temperature, and in this way strains resulting from unequal temperatures are avoided. In a properly designed water-tube boiler steam may be raised from a cold boiler to two hundred pounds' working pressure in less than one-half hour. In the design and construction of the Page-Burton water-tube boiler every convenience is provided for the inspection and cleaning.

"The Page-Burton sectional water-tube boiler is equally efficient in and adapted to marine service. The design and construction are such that the weight per horse power is less than in any other type of boiler, larger capacity can be placed per cubic or square foot than with any other type of boilers, and the large combustion area is greater than in any other type of boiler. Boilers of the Page-Burton type in actual service as waste-heat boilers have shown an evaporation of from fifteen to twenty per cent. more than other types of boilers. In waste heat this boiler is one of the big surprises. The Page-Burton sectional water-tube boiler is self-contained, the steel enclosure is lined with air-cel asbestos and fire-brick, and air leaks are not known in this enclosure. The boilers are adapted to any type of furnace and, by reason of sectional design, can be delivered into an opening four by four feet. They insure greatest power in smallest space, are equipped with oscillating scot-blowers and all sections can be blown in one minute, with not a door open. The boilers are built for any pressure desired and trouble is an unknown factor in the Page-Burton boiler."

MILTON E. PAGE, JR.

Milton E. Page, Jr., as indicated in the foregoing article, is the founder and president of the Page Boiler Company and has achieved prominence and influence in connection with the representative industrial activities of the western metropolis. He is a son of Milton E. and Dora O. (St. George) Page, the latter of whom is deceased and the former of whom is now a resident of Fairhope, Alabama, where, venerable in years, he is living virtually retired.

Milton E. Page, Sr., was one of the pioneer candy manufacturers of Chicago, where he established his home in 1834 and where he developed a substantial and prosperous manufacturing enterprise under the title of M. E. Page Confectionery Company. He continued his association with this enterprise until 1893, though his active services in the connection terminated in 1887, and his name is held in distinctive honor as that of one of the pioneer business men and influen-

tial citizens of Chicago, to the civic and material development of which he contributed his quota.

Milton Edwin Page, Jr., was born in Chicago on the 2d of October, 1869, and after leaving the public schools he supplemented this discipline by a course in the Bryant & Stratton Business College in his native city. For some time he served as manager of the Spafford Standard Scale Company. Later he held for several years the management of the machinery department of his father's concern, the M. E. Page Confectionery Company, and in 1893 he became associated with the Northwestern Boiler Works, which was succeeded by the Chris. Pfeiffer Boiler Company. Of this corporation he continued as vice-president and director until he engaged independently in the same line of industrial enterprise and, in 1905, effected the organization and incorporation of the Page Boiler Company, of which he has since served as president. Mr. Page is a member of the National Association of Engineers and of the Chicago Steam Engineers' Club. He has always manifested a vital interest in all things touching the welfare of his native city, is loyal and progressive in his civic attitude and is a stalwart supporter of the principles of the republican party. He served several years as a member of the celebrated First Regiment of the Illinois National Guard, has received the thirty-second degree of the Ancient Accepted Scottish Rite of the Masonic fraternity, besides being affiliated with Medinah Temple of the Mystic Shrine, the Chicago Lodge of Elks and the Royal Arcanum.

February 15, 1893, recorded the marriage of Mr. Page to Miss Amalia C. Pfeiffer, of Chicago, and she passed to the life eternal in February, 1906, the three surviving children of this union being Christopher Milton, Edwin William, and Rosina. In 1907 was solemnized the marriage of Mr. Page to Miss Agnes Slevens, of Chicago, and they have three children, Adeline, Evelyn and Charlotte.

H. SCHULTZ & COMPANY

In preparing the material for this comprehensive industrial history of Chicago there is involved an element of distinct consistency and satisfaction when it is possible to direct attention to representative concerns that have pioneer prestige in their respective fields of enterprise, and this is significantly true in the case of H. Schultz & Company, which has a record covering more than sixty years of consecutive operations in the manufacturing of paper boxes in Chicago. Henry Shultz, the founder of the business, is now venerable in years, as the above statement must imply, but he is still the president of the company which bears his name and is one of those strong and valiant captains of industry who have borne the heat and burden of the day and who have been potent forces in furthering the civic and commercial upbuilding of our great western metropolis. He has been in the most significant sense the architect of his own fortunes and in his character and achievement has honored the city that has so long represented his home. From the time of the founding of the business, in 1856, the enterprise of H. Schultz & Company has held a foremost vantage-place in its line, and the original firm name has been retained, though the business was incorporated in 1895, with Henry Schultz, Edward Schultz and Charles F. Wolff as its executive

officers. Operations are now based on a capital stock of one hundred thousand dollars, and the average annual business has attained to the mark of half a million dollars. The modern plant of this representative concern, at 517-531 West Superior street, is a substantial brick structure of six stories and one hundred by one hundred and fifty feet in lateral dimensions, all of the large floor space being demanded for the accommodation of the extensive manufacturing and commercial enterprise here conducted.

At the inception of his Chicago career as a manufacturer of paper boxes, Henry Schultz was able to avail himself of but few mechanical accessories, for no machines had as yet been devised for the purpose and virtually all work was done by hand. Chicago then had a population little in excess of thirty thousand and the demand for paper boxes for commercial purposes was, as a matter of course, limited. He had learned his trade in his native land, Germany, and it was shortly after he had attained to his legal majority that he initiated in Chicago his independent career as a manufacturer of paper boxes,—in the latter part of the year 1856. His original location was in a building at the corner of Lake and South Water streets, and at the start he figured virtually as the entire working force, as well as a buyer, salesman and deliverer of goods. He purchased material in small quantities, made the same into boxes, and the money which he received when he delivered the finished product enabled him to buy stock for continued operations. Concerning this early stage in his career the following pertinent statements have been written: "The day was never too long for the sturdy young Schultz, and he hustled and thought and planned. He learned to figure the cost of a box accurately, and the orders which he secured were made profitable. He made some mistakes, but he did not make the same mistake twice. If an order were offered him at a price in which there was no profit, it was turned away, and he lost no sleep over his loss of business. Gradually the little business grew, slowly but surely. The use of paper boxes was increasing, as manufacturers began to realize the advantage of attractive packages for their goods. With fluctuating business conditions, Mr. Schultz kept himself vigorously pressing forward, and with the increase of his trade he took occasion to obtain from time to time larger quarters, his first removal having been to the corner of Randolph and Clinton streets, the second to 90 Lake street, and the third to 57 State street. The enterprise was prospering at the time when Chicago was devastated by the ever memorable fire of 1871, and after this disaster Mr. Schultz found himself possessed only of some lots which he had purchased, on Superior street near Franklin street. On this property he erected a temporary building to house his family and provide quarters for his business. The building was ready for use thirty days after the fire, and in the following year, 1872, Mr. Schultz removed his business to 51 State street, where he leased two lofts. Incidental to the great fire his losses were such that he found himself in debt to the amount of ten thousand dollars, with a heavy rate of interest and about a decade elapsed ere he was able fully to swerve himself again into line without undue financial burdens. To such a man discouragement or abatement of energy was impossible, and normally expanding business finally placed him on the high road to large and worthy success in his chosen field of industrial enterprise. From the State street quarters removal was made to the corner of Wabash avenue and Randolph street, and later accommodations were obtained at 117-125

South Market street. The present large and well equipped plant, on West Superior street, was planned and constructed under the direct supervision of Mr. Schultz, and though he has now retired from active executive service in connection with the fine manufacturing and commercial industry that owes its development primarily to his ability and energy, he still retains the presidency of the company. Concerning him the following appreciative words have been written: "In his career he has made many friends, and perhaps no man in the box industry can boast of a larger circle of acquaintances or is more thoroughly respected than Henry Schultz." Concerning his career more specific data will be given in appending paragraphs.

The personnel of the official corps of H. Schultz & Company at the present time is here noted: Henry Schultz, president; Henry W. Schultz, vice-president; Edward Schultz, treasurer; and Adolph Ullrich, secretary.

HENRY SCHULTZ

The venerable president of the corporation described in the preceding context was born on a farm near Hamburg, Germany, on the 1st of November, 1833, and there he received his early education. At the age of sixteen years he went to the city of Hamburg and secured a position in a small factory in which were manufactured paper boxes. After two years of close and effective application he was made foreman of the establishment, and it was at this little factory that he learned the business in which he was ultimately to become a successful representative in the great western metropolis of the United States. In the shop in which he served his apprenticeship all of the work was done by hand, the cutting being done with a shoemaker's knife and the scoring with a steel rule which was pressed into the paper-board by hand. A small steel gauge was later made to insure uniform cutting of the corners of the boxes.

It was in the year 1854 that Mr. Schultz, an ambitious and sturdy young man of about twenty-one years, arrived in Chicago and began search for employment. He was unable to find work at his trade and thus went to McHenry county, where he was employed at farm work until the autumn of the following year, when he returned to Chicago and found a position in a little factory on Lake street, the same having been conducted by a man named Kissling and having been devoted to the manufacturing of wooden bandboxes for millinery. For this service he received six dollars a week, and with his modest saving he initiated in the fall of the following year his independent enterprise in the manufacturing of paper boxes, as indicated in the preceding article. Of his subsequent activities adequate mention has been made in the foregoing description of the great industrial business of which he was the founder. Mr. Schultz has always been known for his civic loyalty and liberality, and his course has been dominated by the highest principles of integrity and justice.

The year 1861 recorded the marriage of Mr. Schultz to Miss Jane Sternitzky, and they celebrated their golden wedding anniversary in 1911. Of their children two sons and two daughters are now living.

THE CLEMENTS MANUFACTURING COMPANY

In the domain of sanitary science there has been no one advancement that has been of greater value and importance than that involved in the production of the modern vacuum-cleaning system, which has been not only the conservator of sanitation in homes, apartment buildings, hotels, clubs, and all manner of rooms in which rugs and carpets are used, but which has also proved a veritable boon to housewives and servants. One of the leading concerns engaged in the manufacturing of vacuum-cleaning apparatus in the United States is that whose title initiates this paragraph, and the company is exponent of one of the important and specially successful industrial enterprises of Chicago.

The Clements Manufacturing Company was organized in 1911, on the 28th of June of which year it was incorporated under the laws of Illinois, the original capital stock of ten thousand dollars having since been increased to forty thousand. The original officers were as here noted: George Clements, president; Adam A. Breuer, secretary; and Knickerbocker J. Pettitt, treasurer. At the time of this writing, in the summer of 1917, the personnel of the executive corps is as follows: George Clements, president; Adam A. Breuer, vice-president and secretary; and Julian S. Morgenson, treasurer. Operations in the manufacturing of the unexcelled vacuum cleaners invented by the president of the company were instituted in a building at 427 West Randolph street, and there the business was conducted until May, 1913, when removal was made to the present eligible quarters, at 601-13 Fulton street, where is utilized a floor space of twenty thousand square feet, the mechanical equipment of the factory being of the best modern type and the broad scope of the enterprise being indicated by the retention of two hundred and fifty employes, the majority of whom are skilled mechanics. In addition to manufacturing the new celebrated Clements vacuum cleaners the company also manufactures a superior line of phonographs. The annual sales have now attained to an average aggregate of more than five hundred thousand dollars and in addition to a trade that extends into all parts of the United States and into the various Canadian provinces, a substantial European export business has been developed. The Clements Manufacturing Company stands today as one of the largest producers of electric vacuum cleaners in the world, and it has triumphed over formidable opponents, established its business on a solid basis, and proved that worthy products and straightforward and honorable business policies will prevail over unworthy and clandestine competition.

Long and careful study and experimentation on the part of George Clements resulted in the perfecting of the electric vacuum cleaner that constitutes the chief output of the Clements Manufacturing Company, and of these celebrated cleaners the company had placed on the market at the close of the year 1917 a total of fully twenty-five thousand, the name of Cadillac having been adopted for the cleaners at the time when was produced the first commercial type of the machine. To indicate the policies adopted and strenuously observed by this important industrial corporation, it may be well to take the following excerpts from "Just Dust" an attractive monthly publication issued by the company:

"Of all household devices the electric vacuum cleaner is probably the simplest to operate but the most complex to make. From the raw material—wood, aluminum, steel, copper, brass, rubber, cotton, mica, etc.,—over three hundred sepa-

rate pieces have to be fashioned and assembled in making a complete machine. The Clements Manufacturing Company's line has not been built simply with the idea of cheapness in mind, but always with the purpose of making the best possible product at lowest possible cost. In our own factory we make every piece or part that, by so doing, can be made cheaper and better than by the outside manufacturer, and the result obtained is an increased profit to the dealer on a vastly superior machine.

The Clements line of cleaners gained both the grand prize and gold medal at the Panama-California Exposition, in 1915 and 1916 and upon its exhibit at the Panama-Pacific International Exposition, San Francisco, in the same year, its celebrated Cadillac electric vacuum cleaner was awarded the gold medal. The company maintains branch offices in New York city, Boston, Detroit and Seattle, and in the city of Toronto is established the branch factory, conducted by the Clements Manufacturing Company, Ltd., and placed under the effective general management of Archie Sinclair. The Clements electric vacuum cleaners are manufactured in various sizes and designs, to meet diversified requirements, and special titles are given to the various designs. Of the inception and development of the substantial industry controlled by the company further pertinent data will be found in the appending review of the career of its founder.

GEORGE CLEMENTS

George Clements, president and founder of the Clements Manufacturing Company, has shown in his character and achievement the sterling traits of character and the direct, vigorous and productive energy so signally typical of the race from which he is sprung, his birth having occurred at Edinburgh, Scotland, on the 24th of February, 1862. He is a son of William and Agnes (Dobie) Clements and was a lad of about fifteen years when, in 1877, he accompanied his parents to the United States, the family home being established in Chicago, where he effectively supplemented his previous educational discipline by availing himself of the advantages of the public schools. With natural mechanical genius and predilections, he found early opportunity to develop his technical and practical efficiency along this line, and he was actively identified with the plumbing and steamfitting business at the time when Chicago was girding itself for the production of the wonderful buildings constituting the incomparable "White City" in which was held the World's Columbian Exposition, in 1893. Mr. Clements, as an expert, had charge of the installation of the steam plant which furnished heat to the principle buildings of this exposition, and later he had charge of installing the ventilating system in the present postoffice building of Chicago. From a specially appreciative estimate of his character and achievement are drawn, with minor paraphrase, the following interesting data; the article in point was published in 1916:

"Mr. George Clements has been a resident of Chicago for the past thirty-five years, and for the past seventeen years has been intimately connected with the vacuum-cleaner industry. Years before the portable type of vacuum cleaner made its appearance, Mr. Clements was interested in the installation of stationary vacuum-cleaning systems. Realizing that stationary plants practically limited

the field of vacuum cleaning to new buildings, Mr. Clements set about to make a portable vacuum cleaner available for use in all homes. His original idea along this line was virtually to mount a stationary plant on wheels, so that it might be brought to each home as often as was necessary and service there rendered in the renovating of rugs and carpets. In this way Mr. Clements, in conjunction with his brother-in-law, Mr. James M. Hostler, constructed what was probably the first portable vacuum cleaner. This vacuum cleaner was installed in an automobile. In 1904 Mr. Clements and his associates organized the Hygienic House Cleaning Company, and later this was incorporated under the title of the Hygienic Renovating Company. A number of vacuum-cleaning machines of this portable type were put into service in Chicago. They, of course, caused considerable comment among spectators, who curiously watched the process of drawing into the dust-container of the wagon on the street the dirt from the carpets on the upper floors of buildings.

"Not satisfied, however, with this advancement, Mr. Clements applied himself actively to working out the details of a small portable plant for home use. It was at this time that he came in contact with Mr. J. W. Duntley, with the result that the Duntley Manufacturing Company was formed and, with Mr. Clements' patents as a basis, the pump-type portable machine made its appearance on the market. This alliance was unsatisfactory to Mr. Clements and a few years later, in 1911, the Clements Manufacturing Company was formed, to manufacture fan-type, portable vacuum cleaners. As is typical with the man, so it is with his products,—they keep abreast of the times,—and though the basic idea is still used in the present type of electric vacuum cleaners, improvements are constantly being added, keeping these machines always in the front rank. Mr. Clements is a representative figure in the vacuum-cleaning industry, and he continues to give a personal supervision to the various operations in the factory of his company, keeping in touch with all details and commanding the confidence and unqualified esteem of his associates and employes, who accord to him the most faithful and effective co-operation."

In the time-honored Masonic fraternity Mr. Clements is past master of Mystic Star Lodge, No. 758, Ancient Free & Accepted Masons; is past high priest of Delta Chapter of Royal Arch Masons; is affiliated with Mizpah Commandery of Knights Templars, besides holding membership in Medinah Temple of the Mystic Shrine and with a local lodge of the Knights of Pythias. He is vitally loyal to the city that has been his home since boyhood and here has won secure vantage-place as a successful business man and progressive citizen, his political allegiance being given to the republican party.

In 1890 was solemnized the marriage of Mr. Clements to Miss Ida Hostler, of Chicago, and they have two children,—William J. and Agnes. The family residence is at 445 Englewood avenue.

ADAM A. BREUER

As vice-president, secretary and sales manager of the Clements Manufacturing Company Adam Arthur Breuer has secure prestige as one of the progressive and representative business men of the younger generation in his native city,

and his well ordered efforts have proved specially potent in connection with the development of the important industrial enterprise with which he is connected.

Mr. Breuer was born in Chicago on the 11th of September, 1883, a son of Adam and Carolina (Fuleher) Breuer. He profited fully by the advantages afforded in the public schools and his boyhood ambition and self-reliance were shown in his efficient service in the selling of newspapers. His advancement has come through his own ability and well directed endeavors. For some time he was employed in the offices of the Illinois Steel Company, later in those of the American Steel & Wire Company, and finally he developed strong initiative and productive ability in his connection with the sales department of the International Harvester Company. He remained with this last named corporation four years, but was desirous of securing employment as an outside instead of an office salesman, with the result that, in 1908, he resigned his position with the International Harvester Company and was the first salesman sent with the portable electric vacuum-cleaner manufactured by the Duntley Manufacturing Company. Concerning his advancement from that time the following record has been given: "His ability as a salesman became apparent at once, and he was soon appointed state manager for Illinois. It was here that he met George Clements, with whom he later became associated in the organization of the Clements Manufacturing Company. It is through his ability as sales manager of this concern that the Clements Manufacturing Company's Cleaners have been placed on sale all over the world. Aside from his many duties as vice-president, secretary and sales manager of the Clements Manufacturing Company, Mr. Breuer has found time to take an active interest in the vacuum-cleaner industry in general. As prime mover, he organized the Electric Vacuum Cleaner Manufacturers' Association, of which he was elected the first secretary and treasurer, a dual office of which he is still incumbent. The object of this organization is to further the interests of all independent vacuum-cleaner manufacturers."

Mr. Breuer takes an active interest in municipal affairs in his native city, is a republican in politics, and holds membership in the Hamilton Club, the Chicago Sales Managers' Association, the Chicago Association of Commerce and the Illinois Manufacturers Association. In the Masonic fraternity his York Rite affiliations are with William McKinley Lodge, No. 876, Ancient Free & Accepted Masons; LaFayette Chapter of Royal Arch Masons; Palestine Council of Royal & Select Masters; and Lincoln Park Commandery of Knights Templars, besides which he holds membership in Medinah Temple of the Mystic Shrine, and the Chicago lodge of the Benevolent & Protective Order of Elks.

JULIAN S. MOGENSEN

Julian S. Mogenson, treasurer of the Clements Manufacturing Company, of which record is made in a preceding article, was born at Sheboygan, Wisconsin, on the 6th of January, 1879, and is a son of John Mogenson, who is now deceased and who was for many years a prominent representative of the insurance business in that section of the Badger state. In the public schools of his native city Julian S. Mogenson continued his studies until he was graduated in the high school, and

his initial business experience was acquired through his association with his father's insurance agency. He has been a resident of Chicago since 1909 and here he was actively connected with the Duntley Manufacturing Company from 1909 until 1912, in which latter year he associated himself with the newly organized Clements Manufacturing Company, as treasurer of which he has directed its fiscal affairs with marked circumspection and ability, thus contributing materially to the development and growth of the now extensive and well ordered industrial enterprise. His civic loyalty is on a parity with his recognized business ability and his political support is given to the republican party.

Possessed of distinctive musical talent and with thoroughly trained tenor voice, Mr. Mogenson has been prominent and popular in musical and social circles and is called upon to do a large amount of concert work, besides which he was for five years a member of the Mendelssohn Club, and a quartet maintained in connection with the Second Presbyterian church of Evanston.

On the 18th of September, 1907, was solemnized the marriage of Mr. Mogenson to Miss Elizabeth Crocker, of Sheboygan, Wis., and they reside at 5241 Washington boulevard.

THE GEORGE WAGNER COMPANY

At 207 North Michigan boulevard are maintained the headquarters of this extensive and representative wholesale millinery concern, the trade of which is of large volume and extends throughout to broad territory normally tributary to Chicago as one of the country's foremost commercial centers. The business of the company has been developed principally through the progressive policies and executive ability of its founder and president, whose name gives title to the corporation.

George Wagner was born in New York city, in the year 1853, and is a son of Jacob Wagner, who came with his family to Chicago in 1855 and who long continued as one of the successful contractors and builders of the city. He finally retired from active business and he was one of the venerable and honored pioneer citizens of Chicago at the time of his death, which occurred in 1904. George Wagner acquired his early education in the Chicago schools and was but twelve years of age when he began to earn his own living, by taking a position as cash boy in the mercantile establishment of Mandel Bros. His ambition prompted him to attend night school and thus he definitely supplemented the somewhat meager educational training which he had previously received. After one year of service in the Mandel store he entered the employ of J. B. Shay & Company, a firm that then conducted the largest retail dry-goods establishment in Chicago, and his experience was thereafter amplified by similar service in the employ of Ross & Gossage, and Carson, Pirie, Scott & Company, with each of which concerns mentioned he remained about one year. At the age of sixteen years Mr. Wagner entered the employ of the A. A. Turner, wholesale milliners, and here he acquired his initial knowledge of the business of which he was destined eventually to become a prominent and successful exponent. He continued his alliance with the A. A. Turner for the long period of twenty-one years, and in the meanwhile his service covered all departments, so that he learned with thoroughness all de-

tails of this line of enterprise, including both the manufacturing of and wholesale dealing in high-grade millinery. Through his earnest application and his ability and fidelity he won consecutive advancement and finally was made general manager of the business.

In the year 1891 he formed a partnership with H. W. Pardee and the vigorous new firm of Wagner & Pardee purchased the business of the A. A. Turner Company. The enterprise under the new control was at first conducted in quarters at Nos. 8, 10 and 12 Wabash avenue, and here Mr. Wagner continued his earnest activities for ten years, at the expiration of which he sold his interest in the business. In 1901 he organized and incorporated the George Wagner Company, which conducted business at 86 Wabash avenue until 1907, when removal was made to more eligible quarters at 434 South Wabash avenue. Here the constantly expanding business maintained its headquarters until 1910, when removal was made to the present location on Michigan boulevard.

At the time when he initiated his independent career in the wholesale millinery trade Mr. Wagner and his partner employed a force of about twenty women and girls, and the splendid growth of the business is indicated by the fact that in the busy seasons the George Wagner Company now gives employment to fully two hundred persons. The George Wagner Company now controls a trade that extends into the most diverse parts of the Union, and to facilitate the handling of the eastern business a branch salesroom is maintained at 564 Broadway, New York. The company retains in its employ several traveling representatives and the trade has been extended into the various Canadian provinces. Mr. Wagner is a member of the Illinois Manufacturers' Association and the Chicago Credit Men's Association. In evidence of his appreciation of social amenities is his retention of membership in the Illinois Athletic Association and the Woodlawn Park Club. Both business and civic affairs have found in him a popular representative, and in earlier years he served simultaneously as president of a building association, as treasurer of a church, as secretary of a club, as assistant superintendent of a Sunday school and as captain of a bowling team. His genial personality has gained to Mr. Wagner a wide circle of staunch friends in the city that has been his home from his infancy, and in which he has achieved success through his own ability and efforts. He was reared in the faith of the Methodist Episcopal church and has always been active and liberal in church work. His political allegiance is given to the Republican party.

On the 29th of December, 1879, was solemnized the marriage of Mr. Wagner to Miss Lillian E. Eggleston, daughter of the late Anson Eggleston, who was for many years master mechanic for the Chicago City Railway Company. Mr. and Mrs. Wagner have one son, Elbert A., who is successfully established in the Millinery business in Chicago.

THE MEYERCORD COMPANY

Distinctly unique in its sphere of art and utility productive enterprise, this company figures as the American pioneer in the manufacturing of decalcomania of transfer pictures, this industry involving primarily a process by which the

reproduction of a trademark, name, letter or other design can be printed on transfer paper by means of a lithographic press, after which the resultant picture, design or name can be, in turn, transferred to any other surface selected. It is interesting to note in this connection that the art of decalcomania has been maintained for many years—in fact for several generations—as a secret process at Nurnberg, Bavaria, from which point in Germany products in this line have been distributed in all parts of the world.

The Meyercord Company initiated operations in 1894, and that upon a most modest scale, George R. Meyercord, the founder of the business, being at that time but only eighteen years of age. The circumscribed nature of the enterprise in the inceptive period is shown when it is stated that the business of the company for the first year aggregated only sixty-eight hundred dollars. Relative to conditions that compassed the new enterprise in these formative years the following statements have been made: "The business was conducted on a small, personal-energy basis in the succeeding three 'panicky' years,—1894-5-6. In 1897 it was incorporated under the laws of Illinois and with a capital stock of twenty-five thousand dollars." That efficiency of service and superiority of products have marked the history of the company needs no further voucher than the fact that at the present time a capital of three-fourths of a million dollars is enlisted in the prosecution of the business and that the products of the company's factory go to fully sixty-five thousand manufacturing concerns throughout the United States and the Canadian provinces, very largely to the British colonies of Australia, New Zealand, India and South Africa, and also to other parts of the world in somewhat minor proportion. This prosperous Chicago corporation has made possible the offering in this publication of the following interesting data:

"A brief description of decalcomania and its possibilities may be of interest. It is a fact that ninety-eight per cent of all the world's chinaware and glassware is decorated with decalcomania or transfer pictures. In the case of that class of decoration the printing is done with vitrifiable colors, the printing being done upside-down and the transferring being applied to the ware with varnish, after which the colors are fired into the chinaware or glassware through the means of furnaces similar to those employed in the finishing of hand-painted wares of the same type. Few persons are aware of the fact that the wonderful ornamentations on china and glass are thus produced.

"Another large field for the successful exploitation of decalcomania is that afforded in connection with manufacturing industries in which there is a demand for the name-plating or trademarking of products, such as typewriters, sewing machines, agricultural machinery, etc., and in this important field decalcomania reproductions are almost exclusively utilized, artistic and really marvelous effects being obtained through the using of gold and silver leaf. Probably, so far as the general public is concerned, the most noticeable use of decalcomania is that of producing painted sign effects on store windows, and in applying transfers to the sides of wagons and trucks of concerns that have a large number of units in such vehicles,—such as the large bakers, brewers, packers, department stores, etc., and by this process is done also the lettering and numbering of street cars. This art is employed also in the decorating of furniture in so-called hand-painted effects, and some most remarkable and historically faithful results have been achieved in the reproduction of such decorations for various types of 'Period' furniture, in-

cluding inlaid marquetry. Another extended use for decalcomania is in the producing of oil paintings in multiples, and the reproductions of this order that are generally to be found in department stores are often so marvelous in fidelity to the original paintings that it is almost impossible even for an expert to detect the copy.

"In the development of decalcomania by the Meyercord Company there has been offered a distinct revelation of both art and commercial value, while incidentally there have been produced many features of a patentable nature. The company has been granted more than fifty patents, covering various features in process and products, and virtually all of these represent the practical results of the research, experimentation and inventive talent of Mr. Meyercord.

"An interesting feature of the company's organization is its retention of a large and efficient staff of artists, of whom a corps of upwards of one hundred is employed at times,—one of the largest art staffs in service in any one of all printing plants in the world. It is of interest to note also that the decalcomania transfer pictures may be readily transferred to widely diversified types of surface, among the most noteworthy being glass, wood, iron, leather, chinaware, and all kinds of cloth fibers,—in fact there is hardly a surface that is not susceptible of such treatment as to make it acceptable as a base for the disposition of these pictures, which can be transferred to convex and concave as well as flat surfaces. In a general way decalcomania products represent the only article of commerce that leaves the printing press and lends itself most effectively to beautifying or ornamenting surfaces of almost any shape, its versatility being on a parity with its aesthetic and commercial values. The company maintains its well equipped manufacturing plant in the Chicago suburb of Austin, with a branch factory in the city of Toronto, Canada, and with sales offices in all leading cities of the United States. The general or main offices of the company are in the Chamber of Commerce building, Chicago."

GEORGE R. MEYERCORD.

In connection with and supplemental to the foregoing review of the Meyercord Company it is gratifying to be able to accord brief record concerning the founder and president of the company.

George R. Meyercord was born at Washington Heights, one of the suburbs of the city of Chicago, and the date of his nativity was May 23, 1875. He is a son of Philip and Marie Caroline (Seiff) Meyercord and was about five years of age at the time of the family removal to the city of St. Louis, Missouri, where he acquired his early education in the public schools. Later he pursued a course of technical study in the celebrated Armour Institute, one of the admirable educational institutions of Chicago. Of his manifestation of self-reliance and ambitious purpose when he was a youth of eighteen years mention is made in the preceding article, for it was at that stage in his life that he founded the business that is now controlled by the company of which he is president and which bears his name. Mr. Meyercord also effected the organization and incorporation of the Vitrolite Company, of Parkersburg, West Virginia, and of this corporation likewise he is



Geo. H. Weynord

president, the company having established a prosperous business in the manufacturing of "Vitrolite," a remarkable product that in commercial utility far excels marble. Mr. Meyercord has proved himself essentially a man of thought and action and is a citizen of high civic ideals. He is a member of the board of managers of the American Tariff League, which has headquarters in New York city; and he is a member of the directorate of each the National Association of Employing Lithographers and the Illinois Manufacturers' Association. His political allegiance is given to the Republican party, his religious faith is that of the Methodist Episcopal church, and he holds membership in the Union League Club and Edgewater Country Club, of Chicago; the Illinois Athletic Association and the National Arts Club of New York city.

THE JOLIET RAILWAY SUPPLY COMPANY

The works of this corporation are established at Fortieth street and Princeton avenue, and the general offices in the Railway Exchange building. The concern represents one of the important industries centered in Chicago manufacturing railway safety appliances, the more important ones being the Huntoon Brake Beam, Huntoon Truck Bolster, Hartman Centre Plate, Perry and Burry Side Bearing, and Woodman Journal Box.

The Joliet Railway Supply Company was organized in October, 1908, and was incorporated under the laws of Illinois, on the 3rd of that month and year, with headquarters in the City of Joliet, where the original manufacturing plant was established at 1708 East Washington street, and the personnel of the first executive corps of officers is herewith noted: Frederick Bennett, president; L. A. Schultz, secretary and treasurer; E. A. Laughlin, general manager, and Charles F. Huntoon, mechanical engineer.

The new corporation soon secured a supporting patronage from various railroads and street and interurban railway companies, and operations were continued at Joliet until May, 1913, when manufactory and general offices were removed to Chicago, and the plant established at its present location. Here is occupied a ground space of 34,000 square feet, and the industrial buildings, structures of one and two stories, give an available space for manufacturing and office purposes, aggregating 41,000 square feet of floor space.

The equipment of the plant is of the most modern type in all departments, and through direct connection with the Chicago Junction Railway, the plant has the best of transportation facilities.

The Joliet Railway Supply Company has a representation in the following cities: New York, N. Y.; Washington, D. C.; Richmond, Va.; Detroit, Michigan; St. Paul, Minnesota; Denver, Colorado; San Francisco, California, and Portland, Oregon. The Street Car Department has representation in fifteen different cities of the United States, and the trade of the company has been extended into foreign countries, and supplies sent to China, Chili, Brazil, Argentina, England, France, Russia, Norway, Sweden, Canada, Mexico and Cuba.

On the 21st of November, 1916, the property and business of the Joliet Railway Supply Company were purchased outright by the Northwestern Malleable

Iron Company of Milwaukee, Wisconsin, and reorganization of the company affected under the original corporate title. The present officers of the company are: Frederick L. Sivy, president; James H. Slawson, vice-president and general manager; C. A. Carscadin, vice-president; C. F. Huntoon, vice-president; William F. Hoffman, secretary and treasurer, and Vincent J. Burry, engineer and plant manager.

All of the specialties manufactured by the company as noted in the opening paragraph, are patented and bear the names of the respective patentees, and under the new management the company has enjoyed a rapid and prosperous growth.

The Joliet Railway Supply Company is actively represented by membership in the Chicago Association of Commerce, Illinois Manufacturers' Association and Railway Supply Manufacturers' Association.

SCULLY STEEL & IRON COMPANY

Within a history that has covered somewhat more than a quarter of a century this concern has grown to be one of the largest and most important of its kind in the United States, its province of operations being exclusively in the handling of a wholesale and general jobbing trade in boiler plate, sheet iron and machinists' and railway supplies. The extensive plant of the company is established at 2256 to 2554 South Ashland avenue, and its facilities are unexcelled by those of any other similar institution in the Union.

In May, 1891, Alexander B. Scully and Alfred M. Castle formed a virtual copartnership for the wholesale handling of iron and steel supplies required by boilermakers, and the original headquarters, embracing about seventy-five hundred square feet of floor space, were established at 64 South Canal street, the number of employes in the initial period of operations being about twelve and the jobbing business of the concern being extended as rapidly as possible through the states of the central west. Upon incorporation under the laws of Illinois the title of Scully-Castle Co. was adopted. In 1893 the office and warehouse of the company were established on Fulton street, near Halsted street, the removal having been made for the purpose of obtaining larger accommodations for the growing business. In that year Mr. Castle sold his interest in the business to John B. Scully and the title of the corporation was changed to its present form, the Scully Steel & Iron Company. Business was successfully continued at the Fulton street location until 1910, and in the meanwhile so great had been the expansion of the enterprise that the company had brought into requisition for its purposes the entire block from Union to Halsted street except a small corner used as a freight office for the Chicago, Milwaukee & St. Paul Railroad. Alexander B. Scully became the first president of the Scully Steel & Iron Company and his brother, John B. Scully, the secretary and treasurer. Virtually as a close corporation the business was continued under these executive conditions until the death of John B. Scully, in 1905. At this juncture Alexander B. Scully assumed the office of treasurer, while still retaining that of president, and William H. Dangel became secretary.

In 1909, in order to provide facilities considered adequate for the accommodation of the extensive business for some time to come, the company purchased the plant and other interests of Kelley, Maus & Company and incidentally took over the lease of the site of the latter's plant, at 2364 South Ashland avenue. Simultaneously was effected also the lease of adjoining ground, which gave to the company an aggregate ground space of three hundred and thirty-eight thousand square feet. In the same year the corporation erected on this site a fireproof steel constructed building, six hundred and fifteen by two hundred and forty feet in dimensions, and not only this large building is utilized in its entirety, for general warehouse purposes, but the company also has in full commission a substantial building of two stories and basement, on Fulton street near Union street. In 1910 Mr. Dangel sold his interest in the business to Alexander B. Scully, and the latter continued as the able and honored president of the company until his death, in May, 1914. The demise of the founder of the business necessitated a general readjustment, and at this time the present executive officers were chosen, as here noted: Charles Heggie, president; George Mason, Jr., vice-president and manager of the sales department; George H. Avery, vice-president and manager of the credit department; and Thomas J. Hyman, secretary and treasurer. The vast volume of business controlled by this progressive industrial corporation is measurably indicated by the statement that the average weight of the steel and iron products handled annually is now fully one and one-quarter million tons. The business of the concern extends into all parts of the United States, in the Chicago offices and warehouses of the company three hundred and fifty employes are retained and a corps of twenty-five traveling men represent the company through its far extended trade territory. The company has membership in the Chicago Association of Commerce, the Illinois Manufacturers' Association and the National Credit Men's Association.

CHARLES HEGGIE

Charles Heggie, president of the Scully Steel & Iron Company, is a vigorous and resourceful business man who is well upholding the prestige which the above named corporation has enjoyed for more than a quarter of a century. He entered the employ of the company in 1895, as a youth of about sixteen years, and with the passing days he familiarized himself thoroughly with all details of the business, developed marked initiative and executive ability and finally became one of the stockholders of the company, his incumbency of the office of president having been initiated in 1914 and his well ordered policies having done much to foster the growth of the business, as indicated in the data appearing in the preceding article.

Mr. Heggie was born in Dunfermline, Scotland, on the 14th of March, 1879, and in 1881 his parents came to the United States and established their home at Joliet, Illinois, in which city the subject of this sketch was reared to adult age, his educational advantages having been those of the public schools. He has applied himself diligently and effectively throughout his business career and his advancement has been won through his own ability and well ordered endeavors.

Mr. Heggie is a popular member of the Chicago Athletic Association and the Exmoor Country Club.

GEORGE MASON, JR.

George Mason, Jr., has maintained active association with Scully Steel & Iron Company since 1900 and in 1914, in addition to giving his close supervision to the sales department of the extensive business, he was made a vice-president of the company. He has shown marked energy and initiative as manager of the sales department and his policies in this line have been distinctly progressive and well ordered.

Mr. Mason was born in Chicago on the 29th of April, 1881, and after having made good use of the advantages afforded in the public schools he entered the Lewis Institute, in which excellent Chicago school of technology he took a special course in civil and mechanical engineering, the technical knowledge thus gained having proved of inestimable value to him in his executive service with the company of which he is vice-president. Mr. Mason is a popular and appreciative member of the Chicago Athletic Association and the South Shore Country Club.

CHICAGO MALLEABLE CASTINGS COMPANY

The title of this incorporation indicates the primary productive functions that mark it as one of the important and well ordered industrial concerns of Chicago, the manufacturing plant of the company, modern in design and equipment, is situated at 120th street and South Racine avenue, where the general offices are likewise maintained, and here the company has sixteen and one-half acres of ground, while the floor space of the plant itself has an area of nine and one-half acres. Of the large and substantial business controlled by the company an idea is conveyed in the statement that the number of employes retained under normal conditions at the beginning was about one hundred and seventy persons and that the average annual output of the institution was thirty-six hundred tons of castings. The plant has five furnaces of the best modern type and the cupola has a capacity of 20,000 tons. In the pattern department of the institution fifty men are employed in the construction, altering and repairing of patterns, and specially efficient service is given to the trade in the designing and perfecting of special patterns. The business of the company is largely confined to the production of high-grade castings for railway use and for the manufacturers of agricultural implements, though a general jobbing business is done in the handling of all classes of malleable castings. At this foundry is manufactured a greatly improved and duly patented rail anchor tie-plate that has met with the uniform approval of railway corporations and the demand for which shows a definitely cumulative tendency. The business of the company far transcends local limitations and has been extended through the various sections of the United States and the Canadian provinces. Within a comparatively short period of time the volume of business controlled by the company has been in-

creased six hundred per cent., and the average annual output has attained to the significant aggregate of twenty thousand tons of castings, while employment is given to a force of seven hundred persons.

The Chicago Malleable Castings Company was organized and incorporated in 1899, and the original official corps was as here designated: William H. Jones, president; Silas J. Llewellyn, vice-president; Edward H. Llewellyn, secretary; Owen W. Jones, treasurer; and John T. Llewellyn, general manager. The control of the substantial business is now vested exclusively in members of the Llewellyn family, and the personnel of the official corps is as follows: Silas J. Llewellyn, president; John T. Llewellyn, vice-president and general manager, James S. Llewellyn, secretary; and Paul P. Llewellyn, treasurer. Of these executives more specific mention is made in appending paragraphs.

SILAS J. LLEWELLYN

Silas J. Llewellyn, who has gained prestige as one of the representative figures in the industrial activities of Chicago and who has been long and prominently identified with manufacturing enterprise, has other large and representative industrial interests aside from that represented in his incumbency of the office of president of the Chicago Malleable Castings Company.

Silas James Llewellyn was born at Briton Ferry, Wales, on the 25th of October, 1860, and is a son of Henry and Elizabeth (Gower) Llewellyn, who immigrated to America in his youth and established the family home in the city of Milwaukee, Wisconsin. In the public schools of the Wisconsin metropolis the subject of this review acquired his early educational discipline, and there, as a youth of nineteen years, he entered the employ of the North Chicago Rolling Mill Company, in October, 1879. In Milwaukee he continued his alliance with this corporation and its successor, the Illinois Steel Company, until 1895, and thereafter he was an attache of the Chicago offices of the same company until 1897, when he became vice-president of the Inland Iron & Forge Company. When, in 1899, this company was merged into the Republic Iron & Steel Company Mr. Llewellyn became secretary of the latter, as well as a member of the executive committee of its board of directors. In 1900 he was elected vice-president of the Plano Manufacturing Company, and of this position he continued the incumbent until the company became an integral part of the International Harvester Company. Since 1905 Mr. Llewellyn has been president of the Interstate Iron & Steel Company, and since 1905 he has held the office of president of the Chicago Malleable Castings Company. Mr. Llewellyn is a member of a number of representative social and civic organizations, including the Chicago Athletic Association, the Evanston Club and the Glen View Club, the attractive family home being at 1246 Ridge avenue, in the beautiful suburban city of Evanston. The Chicago offices of Mr. Llewellyn are maintained in the First National Bank building.

On the 19th of June, 1884, was solemnized the marriage of Mr. Llewellyn to Miss Mary E. Parkes, daughter of William B. Parkes, of Milwaukee, Wisconsin, and the children of this union are Paul Parkes, Gertrude and Elizabeth, the

only son being now works manager of the Interstate Iron and Steel Company, and treasurer of the Chicago Malleable Castings Company.

JOHN T. LLEWELLYN

John T. Llewellyn, vice-president and general manager of the Chicago Malleable Castings Company, is a younger brother of the president of the company and was born at Briton Ferry, South Wales, on the 7th of July, 1863, a son of Henry and Elizabeth (Gower) Llewellyn. Mr. Llewellyn was an infant at the time when his parents came to the United States, in 1863, and established their home in Chicago, whence removal was made to Milwaukee, Wisconsin, about six years later. In the latter city John Thomas Llewellyn continued his studies in the public schools until he had duly profited by the advantages of the Bay View high school, and as a lad of sixteen years he found employment in the Milwaukee Works of the North Chicago Rolling Mill Company, which later was merged with the Illinois Steel Company. By efficient service Mr. Llewellyn won gradual promotion and was finally appointed assistant general sales agent. At the time when the general offices of the company were removed to Chicago, in 1892, Mr. Llewellyn assumed charge of the works of the Belle City Malleable Iron Company, of Racine, Wisconsin, and he continued his association with this company for the ensuing six years. In 1899 he came to Chicago and effected the organization of the Chicago Malleable Castings Company, of which he is now vice-president and general manager, besides which he is a member of the directorate of Roseland State Savings Bank.

A man of admirable initiative ability and sterling character, Mr. Llewellyn has attained the front rank among the representative captains of industry in the western metropolis and is essentially a progressive and public-spirited citizen, his political allegiance being given to the republican party and his religious faith being that of the Methodist Episcopal church. He holds membership in the Chicago Athletic Association, Western Railway Club, the Kenwood Club, and the Midlothian and South Shore Country Clubs, besides which he is affiliated with the timehonored Masonic fraternity.

JAMES S. LLEWELLYN

James S. Llewellyn, son of John T. Llewellyn, who is subject of the preceding review, was born in the city of Milwaukee, Wisconsin, on the 27th of December, 1887, and he acquired his youthful education in the public schools of that city and Chicago. Supplemental education was gained through his prosecution of a special course in Armour Institute, Chicago, a scientific course in Mercersburg Academy, at Mercersburg, Pennsylvania, and a course in mechanical engineering at the great University of Michigan. His active business career has been one of close and effective association with the company of which he is now the secretary. He holds membership in the Kenwood and the South Shore

Country Clubs and Chicago Athletic Association, and is affiliated with the Masonic fraternity and the Delta Kappa Epsilon college fraternity.

PAUL P. LLEWELLYN

Paul P. Llewellyn, treasurer of the Chicago Malleable Castings Company, is the only son of Silas J. Llewellyn, the president of this corporation. He was born in the city of Milwaukee, Wisconsin, and in addition to receiving the advantages of the public schools of Milwaukee and Chicago he attended in the latter city the celebrated Armour Institute, after which he completed a scientific course in historic old Yale University. His initial business experience was gained through his association with the Interstate Iron & Steel Company, at Cambridge, Ohio, of which his father is president, and holds the office of treasurer of the Chicago Malleable Castings Company. Mr. Llewellyn is one of the vigorous and representative young business men of Chicago and in a social way is a popular member of the South Shore Country Club and Chicago Athletic Association.

THE PAYSON MANUFACTURING COMPANY

Attention is here directed to one of the extensive and important industrial institutions contributing to the commercial precedence of Chicago, the Payson Manufacturing Company being one of the largest concerns in the United States in the manufacturing of sash and transom operating devices, casters for furniture and trucks and other and varied types of builders' hardware. The large and modern manufacturing plant of the company is situated at 2916-28 West Jackson boulevard, where the buildings utilized afford an aggregate floor space of eighty thousand square feet and where employment is given to an average force of about two hundred persons, the greater number of whom are skilled mechanics. Since 1908 there have been added to this well ordered industrial plant three modern factory buildings, and the mechanical equipment and general facilities of the institution are of the most approved modern order. In 1915 the enterprise was definitely expanded by the absorption of the business of the Dearborn Hardware Company. The annual output of finished products from this representative manufactory average two thousand tons in weight, and the concern is one of the leaders in connection with the metal-trades activities of the Union. The company figures as the pioneer in the manufacturing of sash-controlling mechanisms and locks and in the output of casters for furniture, trucks, etc., it takes precedence of all other concerns in the United States. All products are issued under the brand or trademark of the Payson Company, the trade has permeated all sections of the United States, besides which a large export business has been developed, this being controlled in a direct way in Canada, England and France and through the medium of representative brokers in other countries.

The sash-operating devices manufactured by this company are widely varied in types, sizes and applicability.—from those designed for the manipulation of

ordinary window sash to the remarkable Harris No. 15 continuous—sash operator, designed specially for the facile control of extensive light and ventilating windows in large industrial plants. Concerning this last mentioned type the following pertinent statements may consistently be entered:

“The Harris No. 15 continuous-sash operator marks a new epoch in sash operating; it does away with counter-balances, and by eliminating all strain it lengthens the life of the sash. This result is accomplished by means of a specially devised system of communicating levers attached to the lower rail of the sash and, by a new application of leverage principles, exerting a direct impulse to the sash, the power being cumulative with the gradual opening of the sash,—an advantage that can be claimed by no other type of operator and one that is better than accident insurance as a protection against wind and storm. This is the only device that can operate with equal facility top-hinged continuous sash to swing out or in.”

The company manufactures transom-lifters to meet any and all conditions and demands, and one of the most important is the Harris concealed transom-lifter, which represents a noteworthy innovation and a great improvement, in that it makes possible the elimination of exposed rods and other accessories and avoids the marring of the integrity of wood-finishings in elegant homes and other high-class buildings. Sash-operating devices of the finest type are manufactured under specific names, with provisions for either tension or torsion operation. Installations of the Harris continuous-sash operating mechanism has been made in many of the largest industrial plants in Chicago and other leading manufacturing centers of the country, and the special catalogues and other descriptive literature issued by the company give full information concerning all products, including signal sash-locks, ventilating sash-locks, combination sash-locks and lifts, cupboard turns and other special lines of builders' hardware. The company, in designating its province of operations as “designers and manufacturers of regular and special sash-operating devices for railroad shops, power houses, manufacturing plants, conservatories and government buildings,” continues its announcement in the following statements: “We are the oldest and largest manufacturers of this class of goods in the west and make the greatest variety and most complete line of sash operators. Our long experience enables us to solve any sash problem and execute orders with the greatest accuracy and dispatch, no order being too large for our capacity and none too small for our prompt attention. We guarantee our goods to meet all requirements for which they are intended.”

Adverting to the inception and development of the important industrial enterprise of the Payson Manufacturing Company, it may be stated that the business was founded in 1875, by Joseph R. Payson, who began on a small scale to manufacture sash-controllers, ventilating sash-lifts and other types of builders' hardware. In 1879 the business was incorporated under the laws of Illinois and under the present title. The factory at that time was situated on the site of the present extensive plant, but in the initial stages the floor space utilized did not exceed nine thousand square feet and the number of employes did not exceed thirty men.

Superiority of products brought success to the enterprise with the passing years, but the era of maximum development was ushered in when, in 1907, a

thorough re-organization of the business was effected and Elijah T. Harris and his associates assumed control, Mr. Harris at this juncture becoming president and treasurer of the company and R. L. Rogers its secretary. Under the new regime the company has made numerous additions to its line of products, and in this connection it may specially be noted that in the plant are now manufactured two hundred and fifty different sizes of casters, aside from the extensive production of other departments. Seventy-five per cent. of the devices turned out by the company are of original design and covered by patents owned by the corporation. The company has membership in the American Hardware Manufacturers' Association, the National Association of Commerce, the National Credit Men's Association, the Illinois Manufacturers' Association, and the Hardware Club of Chicago. The personnel of the company's executive corps at the present time is as here noted: Elijah T. Harris president; Robert A. Lackey, vice-president; James A. Billings, treasurer, and Roy L. Rogers, secretary. Of the president of the company more specific mention is made in appending paragraphs.

ELIJAH T. HARRIS

Elijah T. Harris, president of the Payson Manufacturing Company and of the Harris & Reed Manufacturing Company, has been a resident of Chicago since his boyhood and has here attained to prominence and influence as a representative exponent of industrial enterprise, this fact being clearly demonstrated through his association with the two corporations noted.

Elijah Tucker Harris, a scion of New England colonial stock, was born at Springfield, Massachusetts, on the 31st of July, 1852, a son of Samuel H. and Nancy (Preble) Harris, his father having become a prominent pioneer manufacturer in Chicago. Mr. Harris was about seven years old at the time of the family removal to Chicago, and here he continued his studies in the public schools until he had completed the curriculum of the high school, in which he was graduated in 1869. Thereafter he further fortified himself by a special course in civil engineering. He initiated his business career in the capacity of bookkeeper for a local planing mill, and later he became superintendent in the factory of his father, who was engaged in the manufacturing of doors for safes and vaults. In 1876 he initiated his independent career as a manufacturer of light and ornamental hardware specialties, and from 1881 to 1886 he was president of the Harris Brass & Bronze Company. He later became one of the principals in the Harris & Winslow Company, the title of which was subsequently changed to Winslow Brothers Company, this alliance having continued from 1886 to 1888. Mr. Harris likewise became prominently identified with the manufacturing of mantle and grate equipments, his association with this enterprise continuing until 1890. Thereafter he was engaged in the manufacturing of architectural metals and the general foundry business until 1896. He organized in that year the Onward Company, which was succeeded in 1908 by the present Harris & Reed Manufacturing Company, of which he is president and manager and of which further mention is made in a following article. Since 1906 he has been president of the Payson Manufacturing Company, of which representative

industrial corporation description has been given in preceding paragraphs. Mr. Harris has been progressive not only in connection with business but also as a loyal and public-spirited citizen. His political allegiance is given to the republican party and he holds membership in the Hamilton Club and the Rotary Club, his residence being at 1827 Washington boulevard.

On the 27th of May, 1886, Mr. Harris wedded Miss Florence Parker, of Bloomer, Wisconsin, and they have five children,—Elijah, Nancy, Christine, Victor Frederick, and Florence.

HARRIS & REED MANUFACTURING COMPANY

In the two preceding articles have been given data that offer distinct evidence of the secure status which Elijah T. Harris has gained in connection with manufacturing enterprise in Chicago, and it was in the year 1896 that he became associated with Albert S. Reed in organizing the Onward Company, which, in 1908, was succeeded by the present Harris & Reed Manufacturing Company, which was duly incorporated under the provisions of the laws of Illinois, with assigned function to be the manufacturing of ball bearings, bicycle hubs, wrenches and railroad velocipedes. The new concern began operations in a modest building on the site of the present plant, 1510-18 West Fifteenth street, where was afforded an aggregate floor space of about eight thousand square feet and where in the initial period the corps of operative employes was about six men. With the continuous growth and expansion of the business, under forceful and progressive management, the plant received required additions from time to time, and here twenty thousand square feet of floor space are now used, the while the average number of employes is about fifty, the most of whom are skilled mechanics. The company has added other lines to its output, and nearly all products are of designs perfected by the company and protected by letters patent. At the present time special attention is being given to the manufacture of wheel-hubs for aeroplanes, and under the conditions of warfare in Europe and the strenuous preparations being made for participation on the part of the United States, this department of the business has become one of major importance, the demand for products being such as virtually to test the capacity of the department. Mr. Harris has been president and treasurer of the company from the time of its incorporation; Albert S. Reed is vice-president; and George Parker is secretary.

MORDEN FROG & CROSSING WORKS

Under the above corporate title has been built up in Chicago an industrial enterprise that has most important bearing in the construction and operation of railway lines, and the special products manufactured by this concern have proved their practical utility and superiority through their adoption by the great railway systems. At the time of this writing, as the nation is concentrating its great energies and resources in preparing its great army and navy for participation in

the European war it is specially interesting to record that the Morden Frog & Crossing Works has given evidence of the intrinsic loyalty and patriotism of its principals by doing all in its power to aid in the support of the noble cause in which the United States is now gallantly enlisted with the entente allies of Europe. The company is constructing at its plant a large amount of special railway track supplies to be used by the government in connection with the extension of railway facilities incidental to the prosecution of the great conflict in France. The company maintains its general offices in the Continental & Commercial National Bank building, at 208 South LaSalle street and its extensive and modern manufacturing plant is located in the suburb of Chicago Heights. The concern is one of the most important of its kind in the Union and is entitled to special recognition in this publication.

The nucleus around which has been evolved the large and important industrial enterprise now controlled by the Modern Frog & Crossing Works was a modest manufacturing business that was founded in 1879, by William J. Morden, who began the manufacturing of improved types of railway track devices, including a railway crossing invention that had been perfected by him, the same providing a steel plate for the insuring of a stronger and safer crossing than those of the former type in common use,—in which the rails had been attached to the ties by spikes. He so effectually convinced railway experts of the value of his improved devices that the business expanded substantially in scope, and in 1882 it was incorporated under the laws of Illinois and with the title of the Modern Frog & Crossing Works. The new corporation elected as its executive officers the following named principals: William J. Morden, president and treasurer; P. C. Houston, vice-president and D. C. Black, secretary. Under the new regime a factory was erected in South Chicago, and there operations were continued until 1907, the plant having in the meanwhile been greatly enlarged. In 1894 Mr. Morden withdrew from the company and was succeeded in the presidency thereof by P. C. Houston, Irving T. Hartz becoming vice-president and treasurer, and O. S. Gaither the secretary.

In 1905 the company purchased thirteen acres of land in Chicago Heights, and on this eligible site was erected the thoroughly modern industrial plant now in commission, the company having taken possession of the same in 1907. This model plant gives an aggregate floor space of twenty thousand five hundred square feet, and the mechanical equipment and general accessories of every department are of the best modern type. In 1907, about the time of the removal of the factory to the new plant, Mr. Houston severed his alliance with the corporation and Irving T. Hartz became president of the company,—an office of which he has since continued the incumbent. The new plant was equipped with large steam hammers, bulldozers and forging machines, and in the output of products the most effective methods were adopted for the clamping of all parts of a railway frog or railway crossing together previous to drilling, insuring the perfect fitting of all parts. The plant includes several heat treating furnaces for treating chrome and carbon steel. All products issued from this well directed plant are manufactured to order and in full consonance with plans and specifications provided. The trademark brand of "Morden" appears on all products. The company maintains branches in the cities of St. Paul and San Francisco and the frogs and crossing manufactured are made a standard part of equipment

of both steam and electric railways in all parts of the United States and Canada, besides which a substantial export trade has been developed. The normal annual output of the plant aggregates in weight fully forty thousand tons, while the productive capacity is appreciably in excess of this amount. The company retains an average force of three hundred and sixty employes, including many skilled mechanics. Special attention is given to the manufacturing of the Morden adjustable guard rail-clamp, which is recognized as the best and most efficient device of the kind on the market. The corporation has membership representation in the National Association of Manufacturers, the Illinois Manufacturers' Association, the Chicago Heights Manufacturers' Association, the Railway Business Association, and the Manganese Track Association. The present officers of this progressive corporation are as here noted: Irving T. Hartz, president; Arthur C. Smith, vice-president; W. Homer Hartz, secretary; and William J. Morden, treasurer. Of these executives more specific mention is made in paragraphs that immediately follow this review.

WILLIAM J. MORDEN

William J. Morden, treasurer of the Morden Frog & Crossing Works, is a son of the founder of the industrial enterprise conducted by this corporation, and he claims Chicago as the place of his nativity, his birth having here occurred on the 3d of January, 1886. In addition to advantages of the public schools he here received those of the Harvard School, and later he completed a course in civil engineering at the Sheffield Scientific School of Yale University. In 1908 he became actively associated with the manufacturing enterprise founded by his father, and he has been treasurer of the operating corporation, the Morden Frog & Crossing Works, since 1915. Mr. Morden holds membership in the Chicago Engineering Club, the Chicago Athletic Association, the City Club, the University Club, the Midlothian Club, and the South Shore Country Club, and is affiliated with the Masonic fraternity, including St. Bernard Commandery of Knights Templars and Medinah Temple of the Ancient Arabic Order of the Nobles of the Mystic Shrine.

ARTHUR C. SMITH

Arthur C. Smith has been since 1909 the vice-president of the Morden Frog & Crossing Works and his technical ability has combined with that of executive order to make his influence potent in the furtherance of the success of this old established and important industrial concern, a brief review of which appears in a preceding article.

Mr. Smith was born in the city of London, England, on the 17th of August, 1871, a son of Mary J. and Walter H. Smith, who came to the United States and established their home in Chicago when he was a lad of seven years. After having completed the curriculum of the public schools Mr. Smith found em-

ployment in the engineering department of the Illinois Central Railroad, and he continued his association with the same until 1901, when he entered the employ of the Morden Frog & Crossing Company, of which he was elected vice-president in 1909, as previously noted. He is a valued member of the Chicago Engineers Club and is identified also with the Western Society of Engineers.

THE PARSONS MANUFACTURING COMPANY

On the 4th of November, 1908, under the provisions of the laws of Illinois, this company was incorporated with a capital stock of five thousand dollars and with a surplus fund of equal amount. Winslow R. Parsons, the founder of the business, became president of the new corporation, and he has since continued the incumbent of this office, A. C. Dohrmann being the vice-president. The company assumed control of the business which had previously been conducted by Mr. Parsons in the manufacturing of hardware specialties, children's savings banks and other novelties. In the well equipped plant of the Parsons Manufacturing Company at 411-413 South Clinton street, are manufactured many hardware specialties of distinctive merit, but the enterprise is based largely on the production of the Parsons patented polishing, shining and burnishing machines and process, which have been adopted by many manufacturers in all parts of the world, as this process has gained recognition for being without a peer in its field of operation. In giving a resume of the development of the new substantial and important industrial enterprise controlled by this company it is but consonant to make quotations, with minor eliminations and paraphrase, from the context of a descriptive brochure issued by the company:

"The polishing and finishing of pieces and parts made from sheet metal without resorting to the tedious, expensive method of grinding or polishing on wheels and then buffing on buffing wheels by hand labor of the most expensive character, has long been desired by manufacturers engaged in manufacturing articles stamped and formed from sheet metal, and a great deal of time and money has been spent in attempts to solve this problem. In some instances experimentation resulted in a small measure of success, but the problem was elusive and still remained a mystery until Winslow R. Parsons devised and perfected the process which bears his name.

"Out in Waterloo, Iowa, where the modern cement industry was born, in the year of 1874, W. R. Parsons embarked in the business of selling sewing machines, but not being satisfied with the attachments that were supplied with the various machines he proceeded to improve upon them, and the incidental success demonstrated that he was possessed of decided inventive powers, as he invented, patented and placed upon the market the first and only hemstitching attachments made for the sewing machines, and later followed with two embroidery attachments, and underbraider, hemmers, tuckers and rufflers, upon which he obtained a great many patents. In the year of 1885 he removed to Chicago, for the purpose of having these attachments manufactured, and in 1886 he began the manufacture of his own attachments and inventions in his own factory, where he engaged also in the manufacture of novelties and hardware specialties

placing upon the market a large line of towel racks, hat and coat racks, etc. Later he invented a curtain fixture, a window adjuster, a loose leaf binder, a sewing machine feed said to be the only perfect four-motion device ever produced, and a tempering and annealing furnace for automatically hardening and annealing parts made from tool steel and requiring tempering. Thus he became well known as a successful inventor and manufacturer.

"As nearly all the articles which he manufactured required polishing and plating, Mr. Parsons early turned his attention to the problem of polishing and finishing by mechanical means, with a view of diminishing the cost and improving the quality of the work by removing all burrs and rounding all edges of articles manufactured. How well he succeeded is shown by the patents granted him on this wonderful process. In attempting to effect a solution of this problem Mr. Parsons soon found that he had undertaken one of the greatest tasks of his business career, but with determination and persistence he continued his experimentations through the long days, the longer months and the seemingly endless years, until his efforts were crowned with success."

In an article of this circumscribed order it is neither expedient nor necessary to enter into details concerning the results achieved by Mr. Parsons in the developing of his remarkable polishing and burnishing process, including the now celebrated Parsons polishing machine and Parsons shining and burnishing machine, for all have been known to the trade in virtually all leading manufacturing centers of the world, besides which the effective literature issued by the Parsons Manufacturing Company gives ample information concerning the unrivalled process and the machinery pertaining thereto. The following brief recapitulation is, however, entitled to perpetuation in this connection:

"The Parsons outfit is the most complete, including the grinding machines, which not only remove burrs and scratches but also round the edges of the piece if desired; the finishing machine which is the lightest running and requires the least power to operate, is the greatest time saver, does the best work and is vastly more durable than other; the finest polishers which work into sharp corners as well as other parts of the articles, doing the best work and costing much less than steel balls; also welded steel boxes, liquid tight; hard maple boxes for the steel pieces and heavy maple sieves to separate the steel pieces from the work; groups of machines for jewelers and others doing the smaller class of work, these being the very best for the purpose for which they were designed; 'Parshine,' a neutral lubricant made in conformity with the Parsons patents and the best for finishing or burnishing."

On his polishing and finishing process, Mr. Parsons has secured patents not only in the United States but also in leading foreign countries, and his process is the only one that has been patented as applied to such purposes. Mr. Parsons is not only the inventor of these remarkable machines that are manufactured by the company of which he is president but he also invented or discovered the neutral lubricant which adds materially to the efficiency of the machines, the same representing the result of years of experimentation and scientific testing and the product being manufactured under the trademark name of "Parshine." The Parsons Manufacturing Company manufactures the Parsons finishing and burnishing machines in three different styles and in various sizes Mr. Parsons amplified the versatility of his machines by inventing a stand that will carry a

number of the machines and still permit the stoppage or removal of any one from this battery of machines without interfering with the operation of the others. A group of six machines thus incorporated in one stand occupied a floor space only fifty-six by forty-two inches in diameter. In the factory of this concern employment is given to an average force of highly skilled mechanics, and the products of the plant are now sold in all parts of the civilized world. Among the high grade specialties manufactured by the company are the casement fixtures and adjusters patented by Mr. Parsons and now extensively used with architectural work, the fixtures being readily installed in the windows of all types of buildings and being unexcelled in efficiency.

Winslow R. Parsons, president of the Parsons Manufacturing Company, has become well known as a man of marked inventive genius and has given to the world many inventions of great and enduring value, and many of his inventions in the line of sewing machine attachments have been sold to the White Sewing Machine Company and other leading manufacturing corporations of similar order. Mr. Parsons is the inventor also of a certain die for the making of tin boxes for holding sewing machine attachments which he used for his own attachments. A rubber stamp invented by Mr. Parsons for the marking of Japanned tin boxes proved superior to the imported transfers and these stamps were to ornament his boxes. The Parsons casement adjuster is one of his most recent inventions and is now manufactured by the company.

THE TYLER & HIPPACH COMPANY

At this junction it is permitted to direct attention to a corporation that figures as one of the largest of its kind and that carries a larger stock of plate, window and ornamental glass in their Chicago warehouse than any other single concern engaged in the glass jobbing trade in the entire United States. The extensive warehouse and office building owned and occupied by this company is eligibly situated on West Ohio street, the structure being a modern building of six stories with frontage from No. 336 to 400 on the thoroughfare mentioned, having floor space of fully one hundred thousand square feet. The company employs about one hundred and twenty-five persons and does an exclusive jobbing business in the handling of plate glass, window and ornamental glass.

In the year of 1887 Albert S. Tyler, president of the company, formed a partnership with Louis A. Hippach, under the firm name of Tyler & Hippach, with an available capital of only twenty-five hundred dollars, they established a glass jobbing business, in a building that stood on the present site of the People's Gas Company building, corner of Michigan boulevard and Adams street. The firm was successful from the start. Thrift and careful management brought about results and the enterprise expanded in scope and importance each successive year. The offices of the firm were later established at the corner of Randolph and Dearborn streets. To properly handle the ever increasing volume of business the firm finally reorganized and incorporated under the present title, this action having been taken in 1899. In 1902 the company purchased a tract of land on Clinton street, adjoining the line of the Chicago & Northwestern

Railroad. Here the company erected a suitable new warehouse and office building, with an aggregate floor space of one hundred thousand square feet. Five years later in preparation for the erection of its fine new terminal station the Chicago & Northwestern Railroad Company purchased this property, and it was at this juncture that the Tyler & Hippach Company purchased the land and erected its present fine building on West Ohio street, having an available floor space of one hundred thousand square feet, with all the latest and exclusively their own appliances for handling glass and employing about one hundred and twenty-five persons. Of the company's president, Mr. A. S. Tyler, specific mention is made in an appending article.

ALBERT S. TYLER

It is specially pleasing to accord in this publication specific recognition to Albert Smith Tyler as one of the veteran and representative business men of Chicago. Here his birth occurred on the 4th of March, 1846, and though Chicago at that time was a live town it gave slight promise of becoming the splendid metropolis of the present day. Mr. Tyler is a son of Orson and Amelia (Farrant) Tyler, who were early settlers in Chicago.

Albert S. Tyler acquired his rudimentary education in a private school in Chicago and was about ten years old when owing to the death of his father he was sent to Milwaukee, Wisconsin, where he continued his studies in the public school and a private academy. At the age of sixteen years he obtained a position in the freight department of what was then the Chicago, Milwaukee & La Crosse Railroad, now a part of the Chicago, Milwaukee & St. Paul system. Four years later in 1866, he returned to Chicago, where he took a clerical position in the wholesale grocery establishment of J. W. Doane & Company, with which concern he won advancement to a responsible position. In 1872 he severed his association with this firm to enter the employ of P. C. Hanford & Company, engaged in the wholesale paint and oil business. In 1879 he resigned his position to accept that of cashier in the office of George F. Kimball & Company, wholesale and retail dealers in glass. Here he acquired his initial knowledge of the business of which he has become one of the prominent exponents in later years and he remained with the Kimball concern until 1887, when he formed the partnership with Louis A. Hippach and established the business from which has been developed the extensive enterprise now controlled by the Tyler & Hippach Company, due mention of which has already been made. Besides being the president and principal stockholder of this company Mr. Tyler is treasurer of the Federal Plate Glass Company, engaged in the exclusive manufacturing of plate glass, at Ottawa, Illinois, where the company gives employment to about three hundred persons. Mr. Tyler is also a director and large stockholder of the Western Glass Company, engaged in the manufacturing of ornamental and wire glass at Streator, Illinois, where in this plant one hundred employes are retained. Mr. Tyler has been an indefatigable worker during the course of a long and eminently successful business career, and though he has passed the psalmist's span of three score years and ten he retains the vigor



A. S. TYLER

of a man many years his junior and has not appreciably abated his strenuous business activities.

As a loyal and public-spirited citizen Mr. Tyler has ever shown deep interest in all things touching the civic and material welfare of his native city, his political allegiance being with the republican party. The attractive family home is at 5401 Hyde Park boulevard. On the 5th of October, 1876, was solemnized the marriage of Mr. Tyler to Miss Addie L. Spring, of Chicago, and the only child of this union is a daughter, Irna Clayton.

CHICAGO ASBESTOS TABLE MAT COMPANY

The thoughtful and careful chatelaine of every home, whether it be one of humble order or of distinct affluence, takes pride in the appearance of her dining table, with resultant abhorrence of anything that mars its immaculate appearance. It is in appealing to the "woman who cares" that the above named corporation has been able to develop a substantial and prosperous industrial enterprise in the manufacturing of the Peerless asbestos table mats, through the use of which on dining tables perfect protection is guaranteed. This company was organized in 1905 and articles of incorporation were secured in the following year. The business was founded by Jerome V. Pierce, who is the inventor and patentee of the Peerless asbestos table mat and who has been president of the company from the time of its incorporation. In 1906 the manufacturing of these unexcelled protective mats was instituted on a small scale, in quarters at 760 West Lake street. In the earlier period the business was confined to the manufacturing of the mats in an exclusive way, but later was added the manufacturing of other household necessities and accessories made from asbestos. On his improved table mat Mr. Pierce was granted a United States patent about one year after he had initiated the manufacturing of the product, and in his original factory only twenty-five hundred square feet of floor space were utilized. The first year demanded the employment of an average of twelve assistants in the factory, and the sales for the initial year represented a total of twelve thousand dollars, with the trade exclusively local, through sale to retail furniture dealers. In the further promotion of his business Mr. Pierce interested a number of large table manufacturers in his invention, and to supply the demand thus created it was found necessary to obtain larger factory accommodations. Under these conditions removal was made to a building at 782-84 West Lake street, where was placed in commission five thousand square feet of floor space and the corps of employes increased to thirty. The distinct value of the Peerless table mats was so thoroughly appreciated by the large manufacturers of tables that the trade of the company soon extended far beyond mere local limitations.

In 1909 Mr. Pierce effected the erection of the present factory building, specially designed for the uses to which it is applied and with equipment of the most modern type. This is a three-story brick structure, at 215-17-19 Loomis street, and the same gives an aggregate floor space of fourteen thousand square feet. In 1914, to facilitate the eastern and export trade, a factory was erected at 35-37 East Tenth street, New York city, and this has the same comparative

floor space and equipment as the Chicago plant. The trade of the company now extends into all sections of the United States and prior to the inception of the great European war a substantial export trade had been developed,—in England, France, Germany, Australia and South American countries. Regular shipments are made to Cuba and Honolulu. It was found expedient to establish the New York factory by reason of that city having superior facilities for the securing of the raw material needed in the manufacture of the asbestos mats and other products, the while Chicago retains a commanding position in the handling of the trade through the medium of more favorable railroad rates and transportation.

From a circular issued by the Chicago Asbestos Table Mat Company are taken the following pertinent statements: "The natural protector against heat is asbestos, and we have used it in making the Peerless Asbestos Table Mat for dining-table use. There is only one sure safeguard against table-top troubles,—a Peerless asbestos table mat. In the manufacturing of these mats two heavy sheets of asbestos with a sheet of wool felt are rolled together. The asbestos is protection against heat, but quickly absorbs moisture; the wool felt is protection against moisture. The three-ply sheets are cut into sections, which, when fitted together and hinged, cover half a table top when the table is not extended. Two of these hinged parts make a Peerless asbestos table mat. All Peerless mats and leaves are made to fold compactly for putting away when not in use. Our Royal and Colonial grades are covered completely on the upper surface with white rubberized flannel, which conceals the hinges. This surface is washable and easily kept clean. The under surface is covered with green billiard felt on the Royal mat and white table felt on the Colonial. Both are absolutely guaranteed heat-proof and water-proof. Peerless asbestos table mats are made in all sizes and shapes to fit all tables. Extra leaves are sold separately, thus providing for any extension in the table."

JEROME V. PIERCE

The president of the company mentioned in the preceding paragraphs was born in the city of Buffalo, New York, on the 24th of December, 1861, and he received in his youth the best of educational advantages, as indicated by the fact that he was graduated in Cornell University as a member of the class of 1883 and with the degree of Bachelor of Arts. In the year of his graduation he came to the west and established his residence in Peoria, Illinois, where he was engaged in the lumber and coal business until 1885. He then sold his business interests in Peoria and came to Chicago, where he assumed the position of head bookkeeper in the wholesale drug house of Fuller & Fuller. Later he was given charge of the credit department and he continued his alliance with this representative Chicago concern for a period of twelve years, within which he conceived and perfected his invention of the Peerless asbestos table mat, to the manufacturing of which he finally directed his attention, as shown in the foregoing context.

Mr. Pierce is a man of broad intellectual ken and has continued to be deeply interested in educational and philosophical matters. For several years he was

president of the Ethical Culture Society of Chicago and he is an appreciative student of philosophical, economic and civic subjects, broad-gauged and liberal as a citizen and independent of partisan dictates in politics.

In 1885 was solemnized the marriage of Mr. Pierce to Miss Mary E. Robinson, of Chicago, who was born at Saginaw, Michigan, and they have five children: Helen M. is the wife of Dr. William D. McNally, who is official chemist for the coroner of Cook county; Walter J. is a member of the New York stock-brokerage firm of Berry, Pierce & Company; Marian G. is the wife of Frederick J. DeSole, of Chicago; and Jane Adams Pierce and George A. Pierce remain at the parental home.

THE METAL SPECIALTIES MANUFACTURING COMPANY

At 338-352 North Kedzie avenue is located the modern industrial building owned and occupied by this corporation, and the greater part of the four-story and basement structure, with an aggregate floor space of sixty-four thousand square feet, is utilized for the accommodation of the various departments of the large and important manufacturing enterprise that has been developed by the company within a period of a decade and a half.

In this modern daylight factory is produced a great variety of metal specialties, and the "Presto" and "Anchor" trademarks adopted by the company have become the token of maximum excellence in products, the while these products are in demand in all parts of the United States, as well as in foreign lands, and have given to the company its splendid reputation for efficiency of service and for fair and honorable dealings,—the real basic elements of success in the field of industrial and commercial enterprise. The electrical specialties manufactured by this company include the "Presto" and "Anchor" bayonet-type connectors, plugs, lamp sockets, and switches, dash lamps, trouble lamps, cigar lighters, bicycle lamps, hand lamps, etc. Many remarkably efficient specialties of this kind are adapted distinctly for use in connection with automobiles, including the Presto cigar or pipe lighter; the combination Presto cigar lighter, electric repair-lamp and acetylene lamp-lighter, and various other types of lighters, all of which are manufactured in their entirety in the factory of the company, as are also the various accessories pertaining to these and other products. The automobiles dash-lamps and trouble lamps of the Presto brand represent the maximum of efficiency and in their various sizes and designs are extensively used in all parts of the country. An endless variety of plugs, sockets, connectors, converters, extensions, adapters, switches, etc., constitutes another important part of the company's output of electrical specialties. The Presto Alweather Protector patented and manufactured by the company, has been devised specifically for use on the Ford automobiles, and electric heaters are manufactured for general automobile use and other purposes, the same being notable for versatility in application. Many designs in electric lamps for use in connection with automobiles and motorcycles; hand lamps of numerous sizes and types, electric lights for bicycles; carriage and canoe lamps; advertising novelties and attractive and useful metal specialties for household use; and the Anchor sealing machines, for moistening and cutting gummed tape used for sealing purposes;—all these

and many other products are manufactured by this progressive Chicago corporation. The company also manufactures the Sams' improved safety gasoline-blowpipe outfit for dentists and jewelers and the same is recognized as having no superior, with the result that the demand for the outfit is constantly increasing.

The Metal Specialties Manufacturing Company was organized in 1902, in which year it was incorporated under the Illinois laws, with a capital stock of ten thousand dollars, the first officers having been as here noted: John H. Lee, president; John Berg, treasurer; and Lloyd W. Golder, secretary. The original factory was a room with only six hundred square feet of floor space, and here was instituted the manufacturing of metal specialties on a scale commensurate with the limited capitalistic investment. The business, thus established in a building at the corner of Canal and Randolph streets, was in the beginning confined almost exclusively to job work, contracts being taken for the making of all manner of metal specialties demanded. During the first year the company had on its payroll only four or five men, all of whom were skilled artisans. The high grade of the work turned out led to a substantial and normal expansion of the enterprise, and each year demanded an expansion of the manufacturing facilities. At the expiration of five years the company was utilizing a floor space of six thousand square feet and retained a force of thirty skilled employes. From the sphere of contract job-work the company initiated its independent manufacturing business by taking up the manufacture of the Walter Sams patented blowpipe, upon which invention John Berg, treasurer of the company, had perfected a valuable improvement, a patent having been granted to him on it. It may be further stated that this improved blowpipe and equipment, adapted exclusively to the use of dentists and jewelers, is now extensively sold in all parts of the civilized world, with a specially extensive sale in the United States, Canada, England and Australia. The improvement on the original device has made the same of such practical efficiency that there is a constant and cumulative demand for the outfit on the part of dentists and jewelers, the company's sales of this one product alone having attained to an annual average of twelve thousand dollars. The patented electric cigar-lighters manufactured by the company likewise represent the result of the inventive genius of its treasurer, and there is a constant demand for the same, the product having been successfully introduced throughout the United States and Canada and also in foreign lands. The tape-sealing machines manufactured by the Metal Specialties Manufacturing Company are produced in three different styles, and this valuable device likewise was invented and patented by Mr. Berg. The sales of these machines for the year 1916 attained to the significant aggregate of seventy-five thousand dollars, and the device is used extensively not only in the United States and Canada, but also in England, Russia, Japan and South American countries. To how great an extent the upbuilding of the large and far-reaching industrial enterprise of this company has been based upon the inventions of Mr. Berg is further shown in the statement that he is the inventor also of the Presto electric hand lamps manufactured by the company. He conceived the idea of this lamp while on a duck-hunting trip on the Fox river during the night hours of September 1, 1914. In his midnight activities at this time he had communion with that necessity that is pronounced

the mother of invention, and upon his return to Chicago he forthwith instituted the experiments that resulted in the perfecting of the Presto electric hand-lamp, the first order for the new device having been received by the company on the 1st of November of the same year. A wonderful success attended the introduction of this lamp, the sales of which for the first two months aggregated twenty-two thousand dollars, and the business for the year 1915 having been in excess of seventy-five thousand dollars. Mr. Berg, who is the active head of the mechanical departments of the company's extensive business, has, as may be inferred, a remarkable inventive genius, and he is an expert in practical and scientific mechanics. He has not put a curb on his inventive predilections but is constantly studying and experimenting and has at the time of this writing a number of applications for patents on his more recent inventions, the models of which have been duly filed in the United States patent office. The substantial growth of the business is indicated in the statement that for the year 1916 it was brought up to the significant aggregate of three hundred and fifty thousand dollars.

In 1910 the factory of the company was removed to a building at 730-38 West Monroe street, and within the ensuing six years requisition was here made for twenty thousand square feet of floor space, the force of employes having been increased to fully one hundred persons. In the meanwhile the company had purchased property at the corner of Kedzie and Carroll avenues, and in the autumn of 1916, under the personal supervision of Mr. Berg, was erected the fine modern industrial building that constitutes the present factory of the company, the four-story building having been completed at a cost of more than one hundred thousand dollars. Here the floor space, exclusive of the basement, is sixty-five thousand square feet, and the company utilizes two floors and the basement, the other two floors being rented. Most liberal expenditures were made in equipping the new factory with the most approved and modern type of machinery and accessories and the plant is now a veritable model.

John H. Lee, the president of the company, is not active in the management of the business. He is a representative member of the bar of Chicago, where he is a member of the well known firm of Dyrenforth, Lee, Chritton & Wiles, leading patent attorneys and solicitors.

Mr. Lloyd W. Golder, secretary of the firm, has been one of the members from the start and has devoted his time to the financial end and the office management and because of his careful handling of this part of the business a great deal of the success of the Company should be laid at his door.

It was in the spring of 1913 that the officers of the Company realized that they had the possibilities of a big business lying dormant through the lack of a proper selling organization to dispose of the goods that they were so ably fitted to make, and realizing this fact, they decided to interest in the Company an experienced sales manager to build up this end of the business.

In April of 1913 Mr. N. H. Oliver became interested in the firm to handle the sales. His previous experience and success in the handling of a large number of salesmen in much larger firms ably fitted him for the management of this end of the work and to him no end of credit is due for the way year after year wonderful increases have been made in the sales of the Company, which has been carefully covered in the foregoing analysis of this firm.

JOHN BERG

John Berg, treasurer of the Metal Specialties Manufacturing Company, has been the dominating force in the upbuilding of the substantial industrial enterprise now controlled by this corporation, and the foregoing article gives ample evidence of this fact. Mr. Berg was born in the town of Randers, Jutland district of Denmark, and the date of his nativity was September 9, 1865. He is a son of Adolph F. Berg, who was a leading citizen of Randers, where he was the owner and operator of a machine shop and a planing mill, and where he continued to maintain his home until his death, in 1884.

The excellent schools of his native town afforded to John Berg his early educational discipline and as a youth he learned the trade of machinist, in the shop owned by his father. He was nineteen years of age at the time of his father's death and then assumed charge of the business, as superintendent of the shop. In 1890 he rented the factory to an old and trusted employe of his father, and by this means made proper provision for the support and comfort of his widowed mother, as he had decided to immigrate to the United States, besides taking unto himself a wife. At Aarhus, Denmark, September 9, 1890, his twenty-fifth birthday anniversary, Mr. Berg wedded Miss Mary Soeberg, and, taking only sufficient funds to provide for himself and his bride a comfortable voyage and incidental requirements, he set forth for America. Disembarking in the port of New York city, Mr. Berg and his wife thence came forthwith to Chicago, and here he soon found profitable employment at his trade. In 1891 he purchased the small plant and business of the Chicago Die & Tool Company, established in a building at the corner of Randolph and Market streets. He paid only six hundred dollars for this factory and business, and later he sold the plant for twenty-five hundred dollars, taking as pay a block of stock in the Metal Novelty Works, a concern established in the same building. From the sale of the stock in this latter enterprise sufficient funds were raised to join in the founding of the Metal Specialties Manufacturing Company, as described adequately in the foregoing article. In politics Mr. Berg is aligned with the republican party, he holds membership in the Chicago Motor Boat Club, and is affiliated with both York and Scottish Rite bodies of the Masonic fraternity. He and his wife maintain their home at 5439 Iowa street, and their children are two in number,—John William, who is an assistant executive in the office of the Metal Specialties Manufacturing Company, and Stanley, who is engaged in the automobile supply business in Chicago.

NELSON H. OLIVER

Nelson H. Oliver, the efficient and progressive sales manager for the Metal Specialties Manufacturing Company, of which description had been given in a preceding article, has been associated with the company in this capacity since 1913, and the officials of the corporation accord to him large credit for the furthering of the success of the business, his record as a sales manager of remarkable initiative and administrative ability having intensified his reputation through his really remarkable achievement since he identified himself with this

company. Here he has proved the right man in the right place and through his aggressive commercial policies the sales of the company have been increased five-fold.

Mr. Oliver naturally has the progressive spirit of the west, for he claims Port Townsend, Washington, as the place of his nativity, his birth having there occurred on the 8th of June, 1878. He is a son of Nelson T. and Flora M. A. (Bertrop) Oliver. That he received the best of educational advantages needs no further vouch than the statement that he was graduated in historic old Harvard University as a member of the class of 1903 and with the degree of Bachelor of Arts. Thereafter he held for four years the position of business manager for a correspondence school established in one of the leading cities on the Pacific coast, and in 1907 he came to Chicago. For the ensuing year he held the position of sales manager for the McAllister-Comon Company, wholesale jewelers, and the next four years found him similarly engaged with the Robert Johns Company, wholesale crockery dealers. His next advancement was to the position of sales manager for the Cudahy Packing Company, and after retaining this incumbency one year he purchased, in 1913, an interest in the business of the Metal Specialties Manufacturing Company, of which he has since been sales manager. He holds membership in the Chicago Electric Club and the local organization of the Jovian League, and along more purely social lines he is a member of the Harvard Club of Chicago, the Oak Park Club and the Sigma Alpha Epsilon college fraternity. His political allegiance is given to the Republican party.

June 18, 1907, recorded the marriage of Mr. Oliver to Miss Edna A. Baltic, who was born in the city of Fond du Lac, Wisconsin, though her marriage was solemnized at Colorado Springs, Colorado. Mr. and Mrs. Oliver have one child, Laurine, who was born August 7, 1911.

THE FULLER-MORRISON COMPANY

In the wholesale drug trade this company has gained a substantial place as one of the large and important exponents of this line of enterprise in the western metropolis, and its extensive and well equipped establishment, at the corner of Clinton and Randolph streets, utilized a modern building that was erected by the company and that is conceded to be one of the largest and best devoted to the wholesale drug business in the entire United States. Thorough and efficient organization characterizes the business in all departments and the concern contributes appreciably and worthily to the commercial preedence of Chicago.

In the year 1873 Robert Morrison and Jonathan W. Plummer engaged in the wholesale drug business on a small scale, with headquarters in their home city of Richmond, Indiana. Such was the progressiveness of the new firm that soon it was decided to remove the business to Chicago, the importance of this city as a distributing center making this change a matter of definite commercial expediency and good judgment. Thus, in the winter of 1875-6, the firm gained these superior merchandising and transportation facilities by removing

its stock of goods to Chicago, where shortly afterward was effected a consolidation of the business with that conducted by E. Burnham & Sons Company. Under these conditions a reorganization was effected and the corporate title of Morrison, Plummer & Company was adopted, the headquarters after the consolidation noted having been established at 52 Lake street. With the substantial and normal expansion of the business removal was finally made of larger quarters, at 200-206 Randolph street, and here operations were continued until 1907, when for the use of the company a new building was erected at 310-314 West Washington street. The company continued in the occupancy of these large quarters until the business had so increased in volume as to make necessary the obtaining of still more ample accommodations. On the 1st of January, 1915, a reorganization of the business was effected and the title of the corporation was changed to the present form,—the Fuller-Morrison Company. Early in 1917 this vital and progressive corporation completed the erection of its present large and modern building, at the corner of Clinton and Randolph streets, and possession of the same was taken on March 26th of that year. This is a thoroughly fireproof structure of six stories and basement, modern in architectural design and in all details of construction and equipment, and the building gives for the use of the company an aggregate floor space of one hundred and sixty thousand square feet. In this magnificent wholesale house, now one of the largest of its kind in the world, is given employment to three hundred persons, and throughout its extensive trade territory the company is represented by an efficient corps of thirty-eight traveling salesmen, the major part of the trade being derived from eight important states of the Mississippi valley.

The present executive officers of this representative wholesale corporation of Chicago are as here noted: James W. Morrison, president; Charles Fuller, first vice-president; Wilford C. Shurtleff, second vice-president; and Walter H. Atwater, secretary. The original incorporation of the business took place in 1884 and the company now bases its extensive operations on a capital stock of \$750,000.

JAMES W. MORRISON

James W. Morrison, president of the wholesale drug corporation of the Fuller-Morrison Company, is a son of Robert and Fayette (Lord) Morrison, and, as noted in the foregoing context, his father was one of the founders of the leading wholesale drug house of which the son is now the executive head.

James William Morrison was born in the fine little city of Richmond, Indiana, on the 1st of September, 1872, and he was about four years of age at the time of the family removal to Chicago. Here he was afforded the advantages of the public schools, the Harvard School and the Chicago Manual Training School, and at the age of twenty-one years he initiated his association with the wholesale drug business of which his father was one of the founders and executive heads. During the intervening years his alliance with the business has continued without interruption and he has become a prominent and influential representative of the wholesale drug trade, the while he is known as one

of the vital and progressive business men of the western metropolis. He has been president of the Fuller-Morrison Company since 1902, his honored father having continued active in the business until his death, in 1888.

Incidental to the history of the beautiful little Quaker city of Richmond, Indiana, it is interesting to note that Robert Morrison, Sr., great grandfather of the subject of this review, was one of the early pioneer settlers of that place, where he established his residence in the year 1810. He was a native of Pennsylvania and a representative of an old and honored family that early became prominent in the Society of Friends. This sterling ancestor first removed from Pennsylvania to North Carolina, and from the latter state he removed with his family to Richmond, Indiana, in 1810, as above noted. Robert Morrison, Jr., was born and reared at Richmond, Indiana, and there began his activities in the wholesale drug business, of which he later became one of the prominent representatives in Chicago, as one of the founders of the firm of Morrison, Plummer & Company, of which the present Fuller-Morrison Company is a direct successor. He continued as one of the prominent and influential business men of Chicago until his death, which occurred in the year 1888. His loved and gracious wife survived him by many years and was venerable in age at the time of her death, in 1913.

The year 1893 marked the acceptance of James W. Morrison to a minor position in the wholesale drug house of Morrison, Plummer & Company and later he was elected secretary of the company, a position of which he continued the incumbent until 1902, since which year he has held the office of president.

Mr. Morrison is a valued member of the Chicago Association of Commerce, and in 1917 he is first vice-president of this splendid organization. He is a member of the National Wholesale Druggists Association, in the affairs of which he has taken a prominent part. Chairman of the board of control of this organization in 1916 and on the 1st of January, 1917, had the distinction of being elected president of the association. He has served also as a member of the executive committee of the Illinois Council of the National Civic Federation, and holds membership in the Union League Club, Chicago Literary Club and the Skokia Country Club. A man of fine literary tastes and appreciation, Mr. Morrison has read deeply and with discrimination.

On the 7th of February, 1900, was solemnized the marriage of Mr. Morrison to Miss Mary T. R. Foulke, daughter of Hon. William Dudley Foulke, a distinguished and influential citizen of Richmond, Indiana. The children of this union are five in number: Robert, Foulke, Rose Mary, Reeves and James W., Jr.

RATHBORNE, HAIR & RIDGWAY COMPANY

This corporation holds prestige as one of the prominent and important industrial concerns of Chicago, its province of operations including the handling of lumber, the operation of two modern planing mills and wooden packing box factories, in which last mentioned department of enterprise the concern is one of the foremost in Chicago. The business is conducted in consonance with most liberal and progressive policies, the principals in this company be-

ing influential and representative citizens of the western metropolis and all taking deep interest in those things that tend to advance the civic and material welfare of the city. The extensive and well ordered manufacturing plant and general offices of the company is situated at the corner of Union avenue and Lumber street and here operations are so conducted that the company has constantly on hand a large reserve stock of lumber, so that prompt and effective attention can be given to all patrons.

The building at the Union avenue plant has 150 by 250 feet of floor space with 450 feet dockage on the Chicago river and 400 feet dockage on a slip offering exceptional shipping facilities. The other plant is a two story structure 200 by 250 located at 1418 to 1426 West Twenty-second street, and here is built the popular wire bound shipping box known to the trade as "4-ones." Beyond this the company has an extensive warehouse and 600 feet of dockage on Laflin street, as well as extensive saw mills and box factories in Minnesota and a modern veneer mill and "4-ones" factory in the South. The Chicago plants employ about 800 people many being skilled mechanics. All plants are equipped with modern machinery and modern conveniences.

This company is affiliated with and members of the Illinois Manufacturers' Association, the Chicago Association of Commerce, National Association of Manufacturers. This company is closely affiliated with Armour & Co., who are the principal stockholders. The affairs of the company are entirely under the control of B. F. Masters, vice-president and general manager.

BENJAMIN F. MASTERS

Even as Chicago offers unequalled industrial and commercial opportunities, even so does this great western metropolis place strenuous and exacting demands upon those who would achieve success and prestige through association with her various productive enterprises of magnitude. Through normal and worthy means and the exemplification of distinctive initiative and executive ability Benjamin Franklin Masters has won a place of prominence and influence in connection with the lumber trade and manufacturing interests of the city, and since 1899 he has been officially connected with Rathborne, Hair & Ridgway Company, representative lumber dealers and box manufacturers, specific mention of this company being given within the pages of this volume. He is president of the Masters Ewald Lumber Company and he is also vice-president and director of the Kemler Lumber Company, and vice-president and director of the Shavings and Sawdust Company.

Mr. Masters is a prominent and influential member of the National Association of Box Manufacturers and has served as president of this important organization, and is now chairman of the board of governors.

Mr. Masters is a member of the Mid-day Club, the Illinois Club, and the Chicago Athletic Association.

Mr. Masters is a native of Ohio; came to Chicago in 1892, and established his permanent residence. In 1899 he became treasurer of the Rathborne, Hair & Ridgway Company, with which company he has since continued his association as an executive officer.

A. NELSON MANUFACTURING COMPANY

The marvelous development of the automobile industry in America has incidentally brought about the upbuilding also of many large and important contributory manufacturing enterprises, in which are enlisted ample capital and the strongest of executive control. Such an institution is that of the A. Nelson Manufacturing Company, which is one of the most important concerns of its kind the west and which contributes its share to the commercial preedence of the city of Chicago. This well ordered company is engaged in the manufacturing of and wholesale dealing in automobile, motor-cycle and bicycle accessories, and the policies and status of the company are significantly shown in the following brief quotation from one of its 1917 catalogues: "We rely upon the goods themselves to substitute all that we claim and prove that they stand in a class by themselves,—strictly the very best. Quality is and has always been our first consideration and every article that we offer to our trade is guaranteed absolutely." This statement shows subjective confidence and the sterling principles which must rest at the base of every prosperous business enterprise, and the A. Nelson Manufacturing Company has from the beginning maintained an unassailable reputation for superiority and reliability of products and for inviolable observance of the highest commercial ethics.

This vigorous Chicago company manufactures an innumerable variety of repair parts that are sold under the Nelson name or trademark and that are applicable to all leading types and makes of automobiles, as well as motor-cycles and bicycles. Among the articles manufactured are coil, master-vibrator and magneto repair parts, supplied with platinum, tungsten and alloy points. The concern furnishes also metal and carbon brushes for starting and generating systems; motors and generators, valve tools and supplies, carbon scrapers, tire tools, pump nipples, keys, clips, gears, compression couplings, magneto coupling, and innumerable variety of repairs, specialties and other accessories for Ford and other leading automobiles, including the Maxwell and the Chevrolet, and all manner of motor-cycle and bicycle accessories, as well as those demanded for roller skates. The attractive catalogue issued by the company illustrates and succinctly describes many of the articles manufactured and handled, and the publication is gladly sent to all representatives of the jobbing trade who make application for the same. The well equipped manufactory of the company is located in the building at the northeast corner of West Randolph and Jefferson streets, and in the factory the force of employes varies from sixty to seventy, the office corps numbering ten persons in addition to the principals of the company. Starting in a small way, the enterprise has been advanced until its business is now of large volume and extends into all parts of the United States and Canada, with an export trade that is handled through New York export agencies. The modern building occupied, 564-572 West Randolph street, affords an aggregate floor space of sixteen thousand square feet and all of this is demanded for the accommodation of the business. The enterprise was founded in 1899, on a small scale, and from the beginning Alexander Nelson, president of the company that bears his name, has been the dominating force in the business. Under the present title the business was incorporated February 1, 1914, with a capital stock of fifty thousand dollars, and the other executive of the company is Frederick J.

Radloff, who is secretary of the company. This concern is represented in membership in the National Association of Automobile Accessory Jobbers, the Chicago Association of Commerce, the Illinois Manufacturers Association, and the Chicago Association of Credit Men. In the subjoining sketch of the career of its president will be found further information concerning this substantial corporation.

ALEXANDER NELSON

The president of the company which bears his name and which is described in the foregoing review, is the type of self-reliant and progressive business man that Chicago most honors and values. He has achieved success through his own ability and efforts and is consistently to be designated as one of the representative business men of the western metropolis. Mr. Nelson was born in Wermland, Sweden, on the 3d of August, 1877, and is a son of Karl A. Nelson, who came with his family to America in 1883 and settled in Chicago, where for many years he was engaged in contracting and building. He passed the closing period of his life in New York city, where he died in 1908. Alexander Nelson was about six years old at the time when the family home was established in Chicago, and there he attended the public schools until he was fourteen years of age, when he found employment in the bicycle store of the B. E. Harris Company. He continued with this concern five years and incidentally found opportunity to develop his natural mechanical and inventive ability, as he made a close study of the mechanism of the bicycle and became expert in his knowledge of the same. He was the inventor of what is now known all over the world as the Nelson adjustable cone for use on bicycles,—a standard and reliable device for the replacing of worn and broken cones. He not only invented and patented this device but has also invented and patented eight other valuable devices, utilized in connection with the construction of automobiles.

In 1899 Mr. Nelson engaged in business in an independent way, with limited means but good credit. His enterprise in its incipiency was of most modest order and was represented principally in the manufacturing of his adjustable bicycle cone, together with other bicycle parts and accessories. His first establishment was at 69 South Canal street, and he worked by the side of his four assistants at the bench, ready to do as much work as he demanded of his employees. The business proved successful and continued to expand in scope during the days when bicycle popularity was at its height. With the passing years the functions of the factory were amplified, and in 1907 he added to the business screw-machinery products. At this juncture he increased his working force to thirty persons and utilized a floor space of twenty-five hundred square feet. In 1908 this factory building was torn down, to make way for the erection of the fine new terminal station of the Chicago & Northwestern Railroad, and Mr. Nelson was thus forced to seek another location. Under these conditions he removed his business to the present location, though at the start he occupied about one-half of the floor space now occupied. Since that year the business has included the manufacturing of automobile, motor-cycle and bicycle parts and accessories, besides which a general wholesale business is controlled in the handling of general lines of accessories

demand in such connection. The company now has a total of twelve hundred and ninety-five different specialties, including parts used in adding machines and typewriters, and with characteristically indefatigable energy and nerve Mr. Nelson maintains an active supervision of all departments of the extensive business which has been developed under his effective administration and direction.

Mr. Nelson is an ardent devotee of sports afield and afloat and finds his chief recreation and diversion in hunting and fishing. He is a popular member of an Arkansas Fishing & Hunting Club, and this alliance he makes one of more than nominal order, as he avails himself fully of the functions and privileges of the organization, besides which he makes occasional hunting and fishing trips to far points in the United States and Canada, where he gains full communion with more primitive nature. He is an active member of the Illinois Athletic Association.

August 27, 1904, recorded the marriage of Mr. Nelson to Miss Rose Populorum, who was born in Chicago, and the three children of this union are all living, Jeanette, Howard Alexander and Harriet Rose.

APPLETON ELECTRIC COMPANY

In November, 1903, Albert Iver Appleton founded the industrial enterprise now controlled by the Appleton Electric Company, and the business had a most modest inception, the original factory, at 221 West Washington street, having utilized only five hundred square feet of floor space and the employes in the little shop having at the start been only two in number. The first catalogue issued by the new concern, in the year 1904, was a pamphlet six by three and one-half inches in dimensions and containing about twenty-five pages. In this modest catalogue there appeared as the specific list of articles manufactured the following items: Telephone fuses, tubular fuses, tubular line fuses, telephone fuse blocks, distributing boards, connectors, cable hangers, magnet winders, test connectors, paper sleeves, Appleton tested fuse wire and strip, fuse links, etc. Of these initial products of the little factory all have become obsolete and their manufacture abandoned, with the exception of the Appleton tested fuse wire, fuse strip and fuse links, which have effectually stood the test of time and progress and have maintained their reputation for superiority.

As indicative of the splendid development that has attended this representative industrial enterprise within the intervening years there is offered a significant voucher in the large and attractive catalogue now demanded to give proper data concerning the manifold products issued from the large and modern manufacturing plant of the company. This recent catalogue, descriptive of "Unilets" in conduit fittings, is six by nine inches in dimensions and contains more than one hundred pages aside from the numerous supplemental bulletins that have been issued from time to time and that have added fully fifty pages to the catalogue. The company now manufactures a most complete line of electrical conduit fittings, and while in this article there is no demand for a repetition of the information that is given in the company's catalogues and bul-

letins, there is no measure of inconsistency in reproducing the following extracts from the foreword appearing in catalogue No. 7:

"In presenting to the electrical trade this general catalogue of Appleton Electrical conduit fittings, we have endeavored to place in the hands of the consumer a catalogue wide enough in its scope to include everything needed by the contractor in the way of conduit fittings. We desire to call special attention to the fact that we can furnish these fittings in either black insulating Japan finish or coated with a metallic covering applied by Sheridizing process, which form of galvanizing is admitted by eminent engineers to be the most thoroughly rust-proof treatment that can be applied to steel and iron surfaces and which also has the additional advantage of being permanently conducting, where reliable electrical connection is desired.

"Unilets are made from open-hearth drawing steel and are consequently light in weight, making them easier to handle than the cast-iron fittings. Being made from steel, it is possible to make these fittings neat in appearance and, by reason of their thin wall construction, they allow fifty per cent. more wiring space than cast-iron fittings for the same size of conduit, besides which they possess a greater mechanical strength. To the line of unilets and conduit fittings we have added numerous new fittings and have designed special covers to accommodate practically every requirement of the electrical contractor,—such as Watt-meter boxes, weatherproof rectangular receptacles, octagon unilets and covers, octagon porcelain receptacles (straight and angular), vapor-proof unilets, shade holders, cut-out and push-button switch unilets, canopy and hanger-board unilets, pull and tandem boxes, Appleton laundry fittings, conduit hangers, conduit clamps, ground clamps, ceiling box adapters, 'Pagrip' metal molding and fittings, and other high-grade specialties."

From local limitations the trade of the Appleton Electric Company has been expanded until it extends into all parts of the United States, branch offices and supply departments being maintained in New York city, St. Louis and San Francisco. This splendid development has been primarily and essentially due to the superiority of the products sent forth by the company to the wholesale and jobbing dealers, and from the beginning an efficient organization and most progressive commercial policies have marked the conduct of the now large and important industrial enterprise. With the constantly increasing trade it became necessary to add to the size and facilities of the factory, and in 1908 the company was utilizing thirty-two hundred square feet of floor space. Realizing that even these accommodations were destined to prove entirely inadequate, Mr. Appleton removed his plant, in December, 1908, to a building at 212-14 North Jefferson street, where requisition was made for twelve thousand square feet of floor space and where the corps of employes was increased to fifty operatives. The present modern manufacturing plant of the company occupies sixty thousand square feet of floor space in the substantial industrial building at 218-230 North Jefferson street, and the force of employes now numbers two hundred and thirty-five persons. Of the great success that has attended the well ordered industrial enterprise definite and concrete evidence is given in the comparison of the volume of transactions, which in the initial years 1903-4 did not exceed twenty-four thousand dollars, while the business for the fiscal period of 1917 attained to the noteworthy aggregate of fully seven hundred and fifty thousand

dollars. In addition to the substantial trade throughout the various portions of the United States the company has developed a permanent and satisfactory business in Cuba and South American countries.

In 1905, as a matter of commercial expediency, Mr. Appleton effected the incorporation of his business under the present title, the Appleton Electric Company, and in the charter granted under the Illinois laws the capital stock of the new corporation was placed at ten thousand dollars. Mr. Appleton has continued as an active executive of the company during the intervening years and has been the dominating force in the development and upbuilding of the large and substantial business. At the time of the original incorporation Elmer E. Sperry became a stockholder and director of the company, and in 1908 a reorganization was effected and the capital stock of the company was increased to fifty thousand dollars. At this juncture Elmer E. Sperry became president of the company, as successor of Mr. Appleton, who assumed the office of treasurer, while J. B. Painter became secretary. In 1914 Mr. Sperry severed his association with the company and Mr. Appleton then reassumed the office of president, besides retaining that of treasurer, Frank H. Merrill being elected vice-president, and John B. Painter continuing in the position of secretary. Since that time no change has been made in the personnel of the executive officers, in addition to whom the directorate of the company includes Robert P. Tillotson. The company has membership in the Illinois Manufacturers' Association and the Chicago Association of Commerce, its secure status being that of one of the substantial and representative industrial concerns of the western metropolis.

ALBERT I. APPLETON

Albert I. Appleton, president of the company which bears his name, was born in the land of Holland, Sweden, on the 20th of March, 1872, and is a son of Carl and Paulina (Christiadsen) Appleton. Carl Appleton, like his sturdy Norseland ancestors, early felt the call of the sea, and he continued his service as a sailor from his native land until 1880, when he immigrated to America. His nautical experience led him to establish his home in Chicago, so that he might identify himself with navigation service on the Great Lakes. He continued as a sailor on the great inland seas for the ensuing six years, and in the autumn of 1885 his wife and children came from Sweden and joined him in Chicago. Here he continued to maintain his home until his death, in 1910, at the age of 69 years, and here his widow still resides.

Albert Iver Appleton acquired his early education in his native land and was thirteen years of age when he accompanied his mother to the United States and joined the husband and father in Chicago. In the following spring he found employment in the factory of the D. M. Goodwillie Company, manufacturers of boxes, but within a short time he severed this association and entered upon an apprenticeship to the trade of machinist and tool maker. He served a thorough apprenticeship in the shops of the Munson Typewriter Company, and he continued in the employ of this company until 1893, when he obtained employment in the great musical instrument factory of Lyon & Healy. After

being here employed in the Company's machine shops a short time Mr. Appleton was tendered a better and more remunerative position with the Munson Typewriter Company, to which he promptly returned and in the employ of which he continued until September, 1894, when he initiated his activities in connection with electrical business. As an expert machinist he at this time accepted the position of foreman in the factory of the Independent Electrical Company, where he was placed in charge of the fuse-wire department. In the following year the plant and business of the company were absorbed by the Chicago Fuse Wire & Whitely Exerciser Company, and Mr. Appleton was made the superintendent of the manufacturing plant, the output of which was doubled under the new regime. Of this responsible executive office Mr. Appleton continued the incumbent until 1899, and in the meanwhile he invented and perfected a large number of valuable electrical devices, which were patented and manufactured by the companies with which he was identified.

In 1899 Mr. Appleton was tendered and accepted the position of superintendent of the extensive factory of the Springfield Drop Forge Company, of Springfield, Massachusetts, but after remaining one year in the old Bay state he returned to Chicago where he took the position of foreman in the factory of the Acme Flexible Clasp Company which was later succeeded by the present Acme Metal Company. One year later Mr. Appleton purchased a one-third interest in the business of the Harvard Electric Company and through his fine technical ability and effective executive policies he vitalized the enterprise which had run to low ebb and after placing the business upon a successful footing he finally sold his interest in the same to the Harvard Electric Company. This advantageous transaction occurred October 28, 1903, and in the following month Mr. Appleton engaged in business in an independent way and founded the substantial manufacturing enterprise now conducted by the Appleton Electric Company, of which description has been given in preceding paragraphs.

Mr. Appleton has achieved success entirely through his own ability and well ordered efforts and is consistently to be designated as one of the representative captains of industry in the great metropolis of the west. A man whose course has been ordered upon a lofty plane of integrity and honor, he has the confidence and good will of all who know him and his circle of friends is coincident with that of his acquaintances. He is a member of the Chicago Athletic Association and the Glen Oak Golf Club and new Evanston Golf Club, his chief recreation being gained through his enthusiastic devotion to golf. He is affiliated with both the York and Scottish Rite Oriental Consistory, divisions of the Masonic fraternity, as well as with the adjunct organization, the Mystic Shrine, his ancient craft affiliation being with William B. Warren Lodge, Ancient Free & Accepted Masons, and his maximum York Rite allegiance being given to Chicago Commandery of Knights Templars. In politics he gives stalwart support to the cause of the Republican party and as a citizen he is loyal, progressive and public-spirited.

In 1895 Mr. Appleton wedded Miss Hattie Maurer, and she passed to the life eternal in August, 1907, the only child of this union, Harry, having died at the age of six and one-half years. On the 31st of August, 1909, was solemnized the marriage of Mr. Appleton to Miss Lillian Wihk, of Chicago, and they have two sons,—John Albert, born August 26, 1912, and Arthur Iver, born October 14, 1915.

CRANE COMPANY

Sixty-two years ago (on July 4, 1855) R. T. Crane poured molten brass from a small hand ladle into a molding flask. The scene of this operation was a small frame building in one corner of Martin Ryerson's lumber yard, Canal and Fulton streets, Chicago. Running almost the length of the little building, along the peak of the roof, was a sign reading: "R. T. Crane Brass and Bell Foundry."

The entire first operation in the original plant of Crane Company was performed by one man, the founder—and for fifty-seven years the head—of the company. Mr. Crane made the mold with sand, found on the premises; he melted the metal, poured it, took out and cleaned the casting, and delivered it to a customer himself. It is worth noting that this first product of the millions the company has turned out during the sixty years, was to fill an order previously booked. It was not merely experimental. It was strictly in the way of a business that has gone on without interruption from that day to this.

As Mr. Crane stood contemplating his first product lying on the earthen floor of that little brass shop, he made a resolution: "To conduct my business in the strictest honesty and fairness, to avoid all deception and trickery, to deal fairly with both customers and competitors, to be liberal and just toward employees, and to put my whole mind upon the business."

Mr. Crane did not know how big his business was to grow as the years advanced, but he laid a foundation that would bear any amount of growth. From a good mold he took a good cast, then straightway adopted a code of business ethics for the disposal of the product.

He believed that square and honest methods were the best and surest, that the true basis of business is mutual advantage. Once he wrote: "The fundamental idea in every large business is to secure and hold a regular line of customers—men who will buy this year and succeeding years. This can be done only by treating each customer fairly." At another time he said: "Our aim throughout has been to conduct our transactions so that a friend once made would be one for all time."

Being a fair, unafraid man, he believed in competition; but he demanded that the competition be manly and honest and free from trickery. He held that business character is formed by competition. "The competitors," said he, "who have caused us the most worry have always been straightforward, upright men, with reputations for honesty and fair-dealing."

When the founder of Crane Company carried his first casting into the market, he said to the original customer, substantially: "This is as good a product as can be made today. The price to you is fair and gives me a fair profit. If you are satisfied with the quality and price, I shall be glad to continue to do business with you. I shall always give you the best I can manufacture at a fair price and as promptly as I can, as my side of the transaction. You pay your bills promptly as your side of it. This will make and keep us friends."

Crane Company's business to-day is conducted along the same simple, basic lines, and the company's customers are the company's friends. The founder knew and followed the most direct road to success—honest products, honest prices, and square dealing.

Crane Company has demonstrated beyond question or cavil that it is possible and practicable to conduct business in a large way independently and in the face of the sharpest competition, purely through merit in the products manufactured and sold, and fairness and honesty in the methods employed; that it is possible and easily practicable for capital and labor to dwell in amity together and to be mutually helpful and trustworthy; that it is possible for a business organization to create great wealth and to accumulate vast property without dealing unfairly with any one, without taking an unjust advantage of any one, and without deviating from the established fundamental principle of legitimate business; that an honest product is worth a fair profit, and a dollar in trade demands a dollar in value.

Crane Company's chief asset is its character, its reputation, its standing in the world of business. Its physical possessions are simply the accessories by and through which it makes that character and reputation useful and effective.

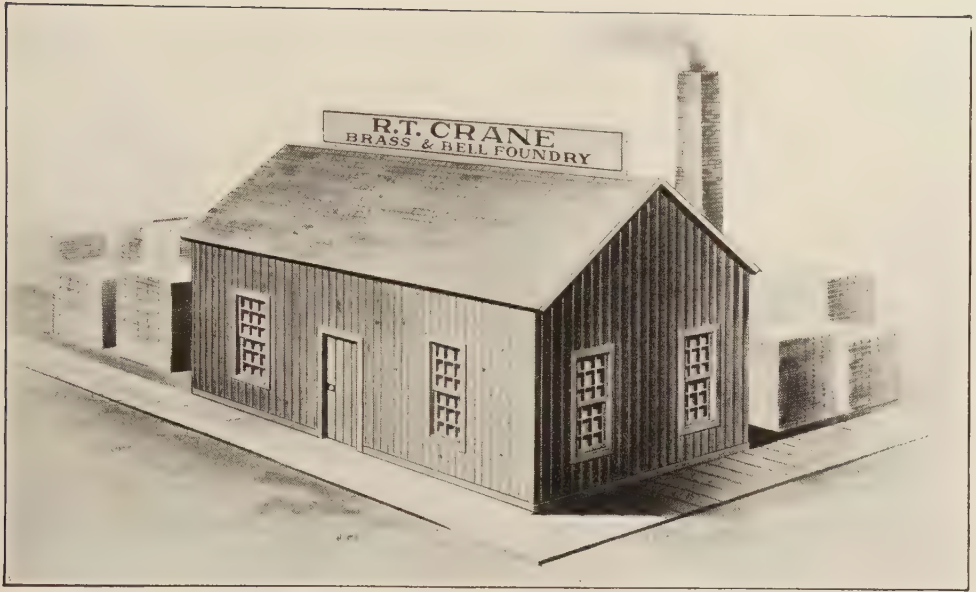
Between the shop of 1855 and the great works of 1917 practically every decade has seen noteworthy additions to the company's physical possessions, or changes in keeping with its rapidly increasing business. In 1855, brass couplings for lightning rods and copper lightning rod tips filled the first orders, and the company's first catalogue was no bigger than a post card. In 1917, with its manufacturing activities confined exclusively to the valve and fittings business, more than seventeen thousand articles are manufactured, and the catalogue for this part of the business alone is a compactly printed book of nearly eight hundred pages.

In the autumn of 1855 Mr. Crane took into partnership his brother Charles, a practical molder, and the first addition to the plant, a brass-finishing "shop," consisting of a foot lathe, was made. The business increased rapidly, and within a few months came the first factory expansion. A room with power was rented on the North Side, close to the Wells street bridge, and a half-dozen small lathes were installed. This was the brass-finishing shop, the original frame building remaining as the brass foundry.

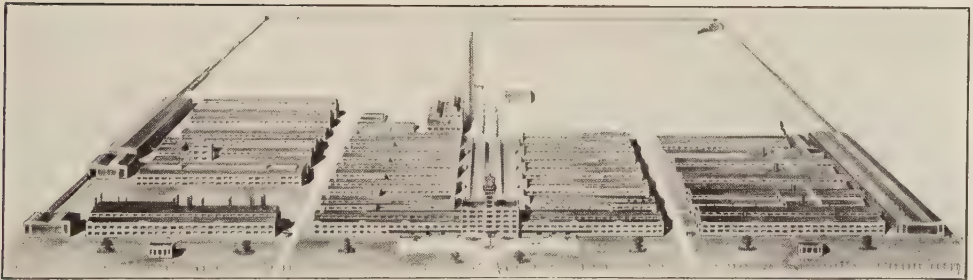
Then came the firm's first consolidation of dissociated shops. A lot was bought in West Lake Street in 1856 and upon it was erected a frame building 20 feet by 40 feet, three stories high with a one story extension. Power was furnished by a six-horsepower portable boiler and engine. Additions were made in brass-finishing machinery and the firm took the name of "R. T. Crane & Brother."

For the first time now the firm began seeking trade outside of Chicago, then a city of some 70,000 inhabitants, and the following year the jobbing of wrought pipe and fittings was added and a beginning was made in steam warming, which soon thereafter became the company's first specialized business.

It is interesting to note that the demand for pipe larger than two inches was then so slight that the firm did not find it necessary to carry any larger size in stock. Nothing larger than a three-inch iron pipe was to be found in Chicago. What marvelous growth the pipe and fitting business has seen in less than sixty years. In 1857 a small store with a twenty-foot front in an eastern city served to carry the stock of the leading fittings manufactured in the United States. In 1910 the buildings of Crane Co. necessary to the carrying on of its valve and fittings business would have made a store front a mile long, with a



BIRTHPLACE OF CRANE CO., JULY 4, 1855, SOUTHWEST CORNER FULTON
AND CANAL STREETS



NEW CHICAGO WORKS OF R. T. CRANE CO., KEDZIE AVENUE BETWEEN 39TH
AND 43RD STREETS

mile and a half of factories ranging from three to six stories in height, and with a total floor space, including the company's Chicago and Bridgeport works and all branch houses, of about 3,600,000 square feet, or more than eighty acres. The new Chicago Works of the company at Corwith materially increases this area for the year 1917, and will add more than thirty-five acres to it.

In 1858 the firm secured its first large steam-warming contract, the heating of the new Court House in Chicago. The number of valves and fittings required for this job gave the firm an opportunity to begin the manufacture of fittings, globe valves, check valves, steam cocks, branch tees, hook plates, etc., eventually specialized, and which today is the company's entire business in manufacturing.

The year 1862 saw another enlargement of the factory in West Lake street and the addition of an iron foundry in North Jefferson Street, close by, with the addition to the company's activities of the making of machinery, steam pumps, etc., and machinery jobbing and custom work.

In 1864 the company built the first pipe mill west of Pittsburgh, containing two butt-weld furnaces. This was operated continuously until 1905, when the property was sold. In the same year the company also built the first malleable iron foundry west of Pittsburgh at what was known for years as No. 10 Jefferson street. Now also came the second consolidation of shops and departments in the brick building on this property which still stands as part of the company's Chicago works.

Into this new building were gathered and systematically arranged the gray iron foundry, the brass foundry, the malleable iron foundry and annealing department, the machine, blacksmith, pattern making, steam fitting, brass finishing, iron fittings shops, the store and the offices of the company. Here also was what is believed to be the first instance in which a foundry was located above the ground floor—a practice followed by Crane Co. in its Chicago foundries up to the building of the Chicago works at Corwith, where ample space renders such an arrangement unnecessary.

On the completion of the new works at No. 10 North Jefferson Street, the company entered upon the making of a full line of fittings, both in cast iron and malleable iron, and also began the devising and making of special machinery for tapping and threading fittings, etc., which has been one of the most potent factors in giving the company its present industrial prestige and advantage. This specializing in machinery has grown from a machine tapping only one opening in a two inch fitting to enormous machines which tap three openings simultaneously in a twelve-inch fitting.

A leading feature at this time in the company's business was the manufacture of machinery, engines, pumps, shafting and pulleys, and general jobbing. This was dropped as the demands of the valve and fittings business grew. In 1865 the firm was incorporated as the "Northwestern Manufacturing Company."

In 1867 the company began the manufacture of elevators, first, freight elevators, then blast furnace hoists, and finally passenger elevators. This part of the business grew so rapidly that it was deemed best to operate it as a separate corporation and in a separate building. Consequently the Crane Elevator Co. was incorporated, and a special building was constructed in South Jefferson Street. The elevator business was disposed of in 1895, and five years later the

building was occupied by Crane Co. in giving room to its expanding valve and fittings business.

In 1870 further additions were made to the old works in North Jefferson Street, running through to Desplaines Street. The following year Charles Crane retired from the business, R. T. Crane buying out his interest; and from then until the day of his death, in 1912, R. T. Crane remained practically sole owner of the business.

In 1852, largely out of respect for his brother, Mr. Crane changed the name of the Company to Crane Bros. Manufacturing Co. The business reason for the change was that there were so many Northwestern Manufacturing companies springing up that there was some confusion in distinguishing between them.

In 1874 the company's business in manufacturing and supplying the trade with valves and fittings grew to such proportions that it was not considered fair to the steam fitters for the company to remain in competition with them, so the company retired from the steam warming business.

In 1881 a new pipe mill was built at Judd Street, near Canal, the first of the large group of factories stretching from Twelfth to Fifteenth streets along Canal Street and the railroad track, all of which were abandoned for the new works at Corwith. This pipe mill eventually became the company's malleable iron foundry when the location of the mill was changed.

In 1890 the corporate name of the company was again changed to Crane Co.

The Period comprising the following twenty-five years is the most important in the history of the company. The introduction of electrical machinery and its effect on steam engines and on steam equipment, made a demand which required all of the company's energies and resources to meet and in most cases to forestall. Larger engines, larger piping, larger valves and fittings, greater steam pressures, greater refinement in steam piping, the coming of superheated steam,—all demanded stronger material, higher and more uniform quality in equipment. This meant more departments, more and larger factories, etc., all of which the company added, keeping always well in advance of the trade demands.

A skilled metallurgist was employed and a laboratory for testing an experimenting was established. Ferrosteel and finally cast steel came into use for valves and fittings. The Cranelap joint, flanges, and pipe bends were perfected, and an engineering department to handle piping work was established.

By 1891 the company had its valve and fittings business in three grand divisions, entirely separated and with ample room for growth—the malleable iron fittings, cast iron fittings, and brass department each had its separate buildings or group of buildings. In 1899 a new factory at Twelfth Street gave another grand division, that of cast iron valves, and in 1901 the old elevator plant was put to use, adding a division for pipe cutting and bending, flanged fittings, and special heavy fittings. There also the company's cast steel foundry was installed. The following year the nipple department was given a factory to itself at Fourteenth Street. The magnitude of the business at that time may be judged from the fact that this department alone turned out 50,000 nipples a day.

In 1903 the company made a distinct departure by buying out the old established business of Eaton, Cole & Burnham, in Bridgeport, Conn. In addition to the old works in that city a thoroughly modern group was built, known as the West End Works, giving the company in the eastern field some fifteen acres in

all of floor manufacturing-space. The Bridgeport Works is now known as the Bridgeport Division of Crane Co.

The pipe bending and flanging and welding department and the bolt department, in 1905, were moved to Ogden Avenue and Rockwell Street, into a mill built originally for a pipe mill, and the old elevator buildings in South Jefferson Street served for further expansion of the heavy fittings department.

In 1909 the company began the erection of fireproof factory buildings with a new malleable iron foundry at Fifteenth and Canal streets and followed with a new building of similar construction for the brass department in 1910 at Canal Street and Twelfth Place (formerly Judd Street) across from the old general offices. These buildings have all given way to the demands of the railways.

* In 1905 a five-story fireproof general office building was erected at Canal Street and Twelfth Street, close to the company's largest group of factories. This served until 1913, when growing industrial demands both of the city and of the company made it desirable for the first time for the general offices to be nearer the commercial center of the city and at some distance from the company's works. Consequently, in January, 1913, the company moved into its new offices —the Crane Building, 836 South Michigan Avenue. This building is 12 stories in height, of the most modern type of steel frame fireproof construction and is situated on one of the choicest of spots for an office building, looking out over Grant Park and Lake Michigan.

The railroad facilities at the Chicago Works are excellent for shipping and receiving material. The new works is served by five railroads and is but one third of a mile from the Drainage Canal. A comprehensive system of switch tracks has been built on the property with in-coming and out-going classification and storage yards. Approximately four and a half miles of these tracks now are laid; the finished project will require seven miles of track.

The Chicago Works fronts on Kedzie Avenue, the front line of the buildings being 150 feet from the street. It is part of the plan to have an ornamental iron fence along the entire half-mile frontage of buildings at the property line. The 150 feet of space between the fence and the line of the buildings is to be given landscape treatment and made into an attractive parkway. The remainder of the property line has a creosoted wood fence, eight feet high.

The plan of the works complete, calls for forty-nine buildings with a total floor area of fifty acres. There is approximately double the floor space in the Chicago Works that there was in the old factories.

The entire engineering on the Chicago Works, including general layout, design of buildings, and their equipment, was done by Crane Co. The buildings are of skeleton steel with reinforced concrete floors, hard-burned wire-cut brick facing, and concrete tile roofs. The buildings are thoroughly fireproof. The combination of red brick and gray concrete on the face of the buildings gives a pleasing and striking effect.

The standard type of building is two-story, with no basement, 500 feet long and eighty feet wide, with a forty-foot court between buildings. The entire group is graded up four feet above the established grade for that section. This allows the freight car platforms to be level with the floor, and the streets leading to the works incline from Kedzie Avenue up to this four-foot higher level, so that a team may drive into any of the buildings from the roadway. The wagon ship-

ping platforms are at the front of the buildings and the driveway comes into them on the regular street level, leaving the wagon on a level with the platforms.

The general scheme on which the works is laid out is to give an uninterrupted movement from the time the raw material is received until the finished product is shipped out. The layout is so designed that buildings may be added to take care of the future growth of the business without changing this general scheme. The raw material comes in on the north and the south sides of the group, going through the various processes of manufacture till it reaches the center, where it is shipped out.

The buildings are all numbered, also each column inside is numbered, so that by referring to a certain column number any one familiar with the numbering system may find it readily. Each building is given a letter and a number. The letters start with the north buildings and run south, the numbers start at the east and run west. There are six blocks of buildings—A, B, C, D, E, and F. There is a street 100 feet wide running west between the B. and C. blocks, and another between the D. and E. blocks. These streets are private and are paved with creosoted wood blocks.

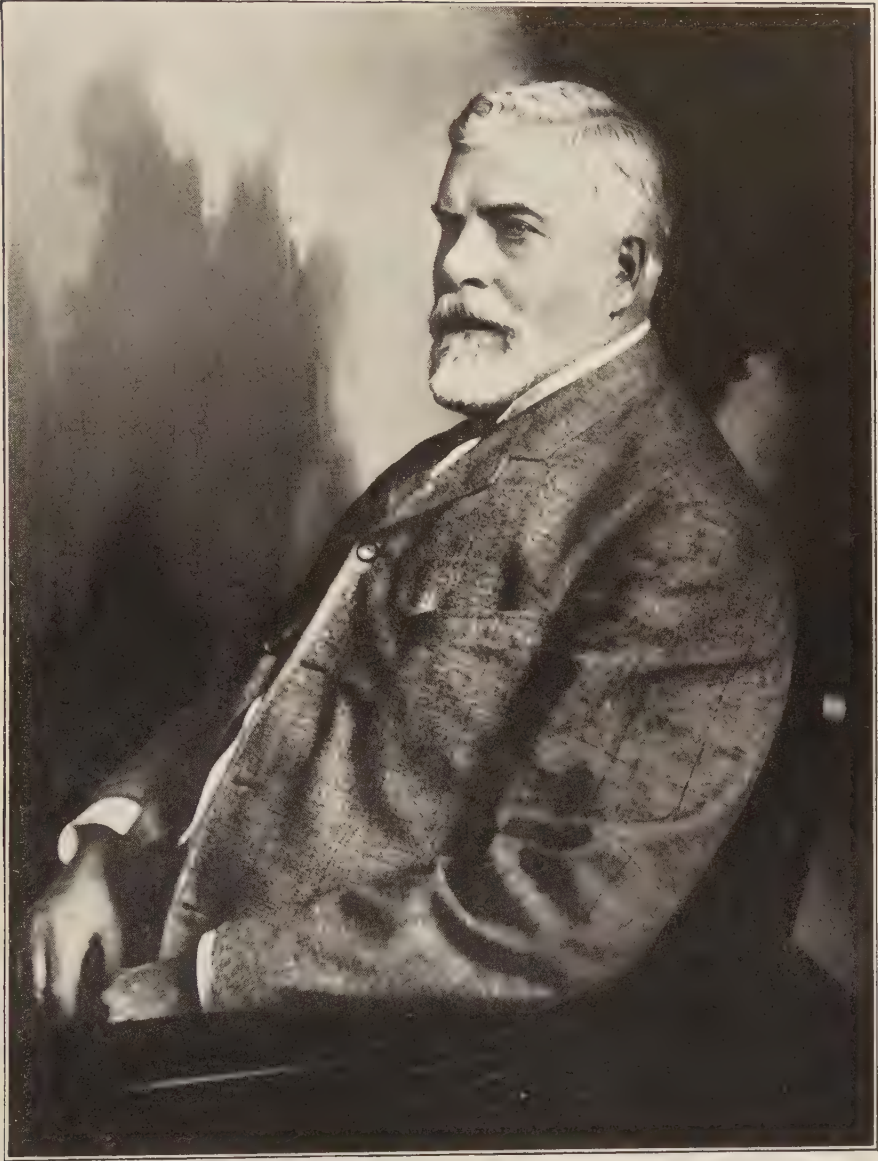
The central architectural feature of the works is the office building with its clock tower. This is in the center of the Kedzie Avenue front. It is a five-story building with the tower three stories higher, with a four-face fifteen-foot illuminated clock dial. This works office building, houses the works manager, general superintendent, the shipping offices, order departments, product designing and drafting room, machine design drafting room, chief electrician, and telephone operators. Each department will maintain its own shop office in the factory buildings. All buildings have monitor type roof, thus giving the maximum of light and ventilation. The second floors are connected with bridges throughout. Separate buildings have been provided for the works doctor and a thoroughly equipped hospital; the employment department; the power house, chemical laboratory, garage and barn, fuel and lubricating supply and pump house.

There is an ideal installation of water closets, urinals, lavatories, sinks, drinking fountains, shower baths, and locker rooms. There are twenty-nine electric elevators of latest design: an electric synchronized clock system, a master clock controlling the tower clock, all other clocks and employees' time recorders and time stamps; a forced circulation hot water heating system; an electric monorail crane for handling coal; an underground tunnel system for all service piping, keeping practically all piping out of the buildings and making a neat, compact, and readily accessible installation.

Ground was broken for the Chicago works of Crane Co. on October 15, 1913. At times since then there have been as many as 1500 workmen on the construction of the buildings, grading of the grounds, etc. Approximately 580 carloads of cement have gone into the construction to date.

The investment in the works—land, buildings, machinery and equipment is between \$8,000,000 and \$9,000,000.

Crane Co. still owns the factory properties at Jefferson and Randolph Streets—the oldest of the Chicago works now standing and known for many years as "No. 10 Jefferson"; at Jefferson and Van Buren Streets—mentioned elsewhere in this sketch as the old Crane Elevator Co.'s shops; and the factories



R. T. CRANE

at Thirteenth and Rockwell Streets—the pipe bending and flanging, etc., shops. The city store and sales office remain at the present location in North Jefferson Street near Randolph Street.

Every one of the forty-eight Branch Houses of Crane Co. is a Crane center. Wherever there is a Crane Branch, there is Crane Co. The character, the reputation, the prestige, the efficiency, the adequacy, the methods and the organization of Crane Co. are as much in evidence in any branch house as they are in the great works at Chicago or at Bridgeport. The customer who deals with any branch house, drawing from its products either manufactured by or sold by Crane Co., deals directly with Crane Co.; deals just as directly and closely as though he transacted his business in the general offices in Chicago and with the highest executives of the company.

The Organization vitalizes these material things, gives them direction, makes them effective. The Organization is Crane Co.

Twelve years ago the company, having recognized the desirability of keeping in closer touch with its thousands of customers than was possible through occasional business transactions, or even the somewhat regular visits of its salesmen, decided upon the issuing of a monthly magazine. To this publication was given the name. *THE VALVE WORLD*, because its purpose was to print things of interest to those in the lines of business covered by the company's activities. It aims to give on these monthly visits the cream of the field it covers, to suggest the readiness and capacity of Crane Co. to meet all the requirements of that field, and to leave with the customer, or the prospective customer, the impression that for those who want reliable products there is nothing easier in the world than to take the fullest advantage of the long experience and highly efficient service of Crane Co.

Officers: R. T. Crane, Jr., President; J. B. Berryman, First Vice President; A. D. MacGill, Second Vice President and Treasurer; E. H. Raymond, Secretary; R. B. Stiles, Assistant Treasurer; C. D. Little, Assistant Secretary; H. B. Fuller, Second Assistant Treasurer; D. G. Park, Second Assistant Secretary.

R. T. CRANE

In a history of the growth and development of the city of Chicago as a manufacturing center, as well as in its civic and municipal advancement, there is fitting and graceful place for personal tribute to Richard Teller Crane who, for more than a half century was an honored resident of the city and a representative of its manufacturing interests and who left upon the page of its history the indelible imprint of his personality and character.

He came to Chicago at a time when it was but little more than a straggling village and when life within its borders presented only the rough and seamy side giving to the casual observer but little promise of future greatness.

Mr. Crane was born at Passaic Falls, Patterson, New Jersey, in 1832, a son of Timothy B. and Marian (Ryerson) Crane. His paternal ancestors are traced to the original Mayflower colony, which settled at Plymouth, Massachusetts, in 1620. His father Timothy B. Crane learned the carpenter's trade in Litchfield.

Connecticut, and became a contractor and builder in New York City, where he erected a mansion for Governor DeWitt Clinton, with whom he was intimate. He later removed to Passaic Falls to engage in the milling business and also erected both saw and flour mills in New Jersey. He first married a Miss Teller, a descendant of the original Knickerbocker colony, from Amsterdam, and later married Miss Ryerson, a sister of the late Martin Ryerson, of Chicago.

At an early age, being obliged to seek self-support, Richard T. Crane learned various branches of mechanical work. In 1847 he located in Brooklyn, New York, where he remained until 1851, during which time he had found employment with several prominent firms, among them that of R. Hoe & Company. In 1855, he came to Chicago, where his uncle Martin Ryerson, was engaged in the lumber business. Mr. Ryerson assisted his nephew with the means, and granted him the privilege of erecting a small brass foundry in one corner of his lumber yard, and from this humble beginning has grown the gigantic enterprise whose manufactured products are marketed throughout the world and whose name stands as an accepted synonym for honest merchandise.

The development of this vast enterprise would alone entitle him to mention as one of the most prominent factors in the life of Chicago, but Mr. Crane also became widely known by reason of his activity in philanthropic, benevolent and humanitarian movements. He is particularly well known because of his advocacy of manual training, and was associated with John W. Doane, Marshall Field, John Crerar, N. K. Fairbanks, E. W. Blatchford and O. W. Potter on the pledge of one thousand dollars for the building of the Chicago Manual Training School, and one of the largest institutions of this character, situated on Van Buren street and extending from Irving avenue to Oakley boulevard, has been named in his honor. Many of his practical ideas have been embodied in the conduct of the manual training schools of this city, which found in him a stalward champion and firm friend. Mr. Crane's success is attributable to his own practical knowledge of the machinist's trade, his ability to surround himself with a corps of able assistants and his power of coordinating and combining forces into a harmonious whole. With but one possible exception he was the largest subscriber to the Chicago Interstate and Industrial Exposition Company, which was organized in March, 1873, to hold expositions on the lake front. These continued for many years, one of the most attractive features in the public life of the city, drawing to Chicago thousands of visitors annually and proving a decided stimulus to trade. Many other instances might be cited of Mr. Crane's kindly spirit and generous nature. To his financial assistance and intelligently devised plans many great movements and organizations owe their success today.

He was an ex-president and member of the Illinois Club and resided at No. 2541 Michigan Avenue.

Mr. Crane passed away January 8, 1913.

WESTERN ELECTRIC COMPANY

The development of the telephone and telegraph industry forms an interesting chapter in the history of American business. Equally interesting is the

history of the Western Electric Company, for this Company has been closely identified with the industry since its beginning. Indeed, the record of telephone and telegraph growth is also a record of Western Electric progress

The period following the Civil War, marked the beginning of many great things in electricity. Telegraph men, after trying out many methods had definitely decided on the Morse system, and the telegraph business began to assume large commercial possibilities. When the numerous telegraph companies scattered throughout the country were consolidated into the Western Union Telegraph Company their several instrument shops were in turn consolidated into two. Among the shops abandoned was the one that had been located at Cleveland, Ohio. A part of this shop's equipment was bought by a partnership of which Enos M. Barton, at that time chief operator of the Western Union office at Rochester, New York, was a member. Some time after Mr. Barton entered the business, he was joined by Elisha Gray, an inventor. The firm became known as Barton and Gray, and the shop was moved from Cleveland to Chicago.

The little shop prospered. In 1870 the working force had increased to seventeen men, and larger quarters were secured on State street at the corner of Eldridge Court. During this time the firm manufactured private line telegraph printers, Morse instruments, sectional boxes, registers, and fire alarm apparatus.

In the great fire of 1871 Gray and Barton's shop, by a freak of fortune, was untouched by the flames. The shop was consequently called upon to supply the needs of others less fortunate, resulting in increased business for the firm.

In 1872 the partnership of Gray and Barton was incorporated as the Western Electric Manufacturing Company. Buildings were difficult to obtain in Chicago at that time, but a site was secured on Kinzie street, near State, where a three story building was erected. This building, which is still standing, was the home of the company for about twelve years.

The year 1879 marked the close of the competition between the Western Union Telegraph Company and the Bell Telephone Company for the telephone field. During this time the Western Electric Manufacturing Company had been making telephones and telephone equipment for Western Union exchanges; but when the Western Union gave up its telephone interests the manufacturing company was left without any telephone business.

However, the company possessed valuable assets. It had a better equipped shop and a body of better trained workmen than any other firm in the country manufacturing small electrical apparatus. The Bell Company seized this opportunity of securing these superior manufacturing facilities and bought a controlling interest in the company. This led to the formation of a new company called by the name it bears today—The Western Electric Company. Under this arrangement, in 1881, the Western Electric Company became the exclusive manu-



KINZIE ST. PLANT OF
WESTERN ELECTRIC CO.

facturer of telephones for the Bell Telephone Company, and—a little later—of all its telephone equipment.

The expansion of the telephone business soon forced the company to seek larger quarters, and in 1883, a new building was erected on Clinton street, near Van Buren, which became the home of the company. Later, additions were made to this building until it finally occupied most of the block bounded by Van Buren, Harrison, Clinton and Jefferson streets.

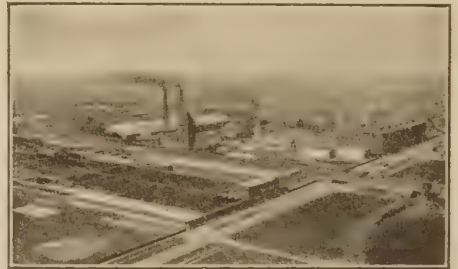


CLINTON ST. PLANT OF
WESTERN ELECTRIC CO.

These years were a period of rapid development. Scientific methods of manufacture were introduced, production was increased and the company's sales increased to two million dollars annually.

The steady increase in telephone development made the manufacturing facilities of the Clinton street plant in-

adequate. In 1903 a tract of 200 acres was purchased at Hawthorne, Illinois, six miles from the center of Chicago, where work upon the present factory at that point was begun. Gradually all the company's manufacturing work, in the United States, was centered there, and by almost continuous additions the Hawthorne plant has now become the largest telephone manufacturing establishment in the world. The buildings cover 21 acres and contain 2,100,000 square feet of floor space, while the company employed there in 1917, about 25,000 workers. Here are manufactured all the telephone, telephone apparatus and cable used by the Bell system,—as well as by other users of such equipment outside of the Bell system. The products of this factory can be found in every part of the world.



HAWTHORNE, ILL. PLANT OF
WESTERN ELECTRIC CO.

In addition to its manufacturing business the company is distributor for many lines of electrical products, embracing practically all forms of electrical equipment. Electricity is now recognized as the universal illumination; and the advantages of using it to turn the wheels of industry and to perform the tasks of the home are being rapidly realized. The Western Electric Company has always been in the forefront of electrical development, and the growth of the company's electrical business has paralleled the growth of the industry. A distributing organization has been developed that completely covers the country, through a chain of thirty-five branch houses in most of the principal business centers of the United States. These houses bring to the sections they serve not only the products manufactured by the company, but electrical equipment of

every kind. The company's customers—regardless of where located—have a Western Electric stock only a few hours from them.

Through its foreign affiliations the company has become an international Institution. In Canada, in many of the capitals of Europe, and in Japan are allied factories manufacturing telephone equipment. There is also a chain of foreign sales agencies, making the products manufactured by the company and those distributed by it, available to all the people of the civilized world.

The Western Electric Company enjoys the distinction of being the oldest and one of the largest institutions of its kind in the world. Its business in 1917 amounted to over one hundred million dollars and was secured from thousands of customers located in all parts of the world. The tremendous growth of this organization is a tribute to the basic principles upon which the business has been built. These principles—high quality of merchandise and fair treatment of customers—have always been the foundation of the company's commercial creed.

JUSTRITE MANUFACTURING COMPANY

In the manufacturing of a diversified line of hardware specialties this company maintains a position of recognized priority, and has one of the most modern and efficiently equipped plants devoted to this line of enterprise in the City of Chicago, the same being situated at 2061-81 Southport avenue. The building is a four story structure, every portion of which has the best of natural light, making it one of the many distinctly "all-daylight" factories in the city. In addition to hardware specialties the company manufactures also a number of patented devices, including acetylene lighting systems and fire prevention devices that were invented by Augie L. Hansen, the Vice-President of the company.

The business of the Justrite Manufacturing Company was founded in 1906, under the corporate title of the Justice Company. The interested principals at the beginning were Frederick J. Becker, who became President, and Walther Raster, who assumed the office of Vice-President of the company. The organic function of the concern was the manufacture of sanitary hospital receptacles which had been invented by Mr. Raster. During the first year the company occupied a single room with a floor space of 375 square feet at 14 Franklin street, and had only two men in its employ. The business was confined solely to the manufacture of hospital receptacles, for a trade that was entirely local. The expansion of the business necessitated removal in 1907 to larger quarters, and consequently the company moved to 218 Lake street, where it had a floor space of 1,800 square feet, and increased its force of employees to six men.

Mr. Becker soon drew his brother, L. A. Becker, into the company as Secretary and Treasurer. These three men at the time were holding positions with different concerns in the city, but during the next few years devoted all of their spare moments in the service of the company.

The progressive and far-sighted policies brought to bear by Mr. Becker, President of the company, found concrete returns in the substantial and healthy growth of the business, and 1910, when a reorganization took place under the

present corporate title, found the concern in larger quarters at Clinton and Van Buren streets. At this location 7,500 square feet of floor space of the second floor were leased, and the operations of the company extended to the manufacture of special machinery and labor saving devices. In the reorganization Mr. Augie L. Hansen joined the company in the capacity of works manager.

This date marks the beginning of the growth of the company to its present size. During the next few years new devices were manufactured and put out under the trade-mark of the company, and finally the organization was devoted exclusively to the manufacture of a varied and superior line of hardware specialties, including the Becker-Hansen patented fire prevention appliances and acetylene lighting systems.

Work for outside manufacturers was gradually dropped, and the main efforts of the organization were directed to the upbuilding of a national and international trade in standardized articles. The company anticipated public demand for various commodities, and by close co-ordination between its factory and sales organization soon placed its products in every part of the country. It has sought constantly to give the public the finest products obtainable, and that its efforts have received public approval, is amply evident in the rapid increasing sales volume.

A few years later the company leased the entire first floor of the building which it occupied, and the force of employes was gradually increased to 200 persons. At this time Mr. Becker retired from Carson, Pirie, Scott & Co. wholesale, and actively assumed the administrative reins of the company. He brought with him Mr. Charles Schuber, who was elected Treasurer, and who served in that capacity until his death on March 25, 1915. On Mr. Schuber's demise, Mr. Reinke, who had joined the company in 1914, was elected Treasurer, Mr. L. A. Becker continued as Secretary of the company, and Mr. Augie L. Hansen succeeded Mr. Raster a short time later as **Vice-President**.

Need for more space prompted Mr. Becker in 1915 to purchase an acre of land admirably situated on Southport avenue. A four-story building, covering approximately one-third of this area, was erected and equipped before the close of that year, and early in 1916 the company moved to these more commodious quarters. The floor space of this new plant totals 55,000 square feet, and the average number of employes has been increased to approximately 350 employes. This statement of itself shows how substantial and healthy has been the development of this industrial enterprise.

During the entire life of the company there has been no outside financiering. In its infancy the company operated on a small capital contributed by Mr. Becker and his associates, but by the practice of rigid economy it was able to weather the storms of its early life, and yet permit room for its expansion and growth. Step by step the company has grown from a small capitalization to its present size by the adoption of sound business policies, in relation to its own organization and the public.

The company now maintains selling agencies in a number of the larger cities of the United States, as well as in foreign countries, and the export trade has been extended with remarkable success in the countries on the western coast of South America, while the European trade has reached an appreciable

volume in spite of the great war now raging. The company has also a substantial export trade in Australia, the Philippine Islands, Hawaii, and the Far East. In appending paragraphs appear more specific data concerning the officers of this vigorous concern, which is contributing its quota to the industrial and commercial pre-eminence of Chicago.

FREDERICK J. BECKER

In the foregoing context has been briefly reviewed the history of the Justrite Manufacturing Company, and the nature of its growth indicates that a man of exceptional ability has been the directing head. This man is Mr. Frederick J. Becker, who has been the executive head of the enterprise since its inception. He is a native son of Chicago, and has shown in his business career and general civic relations the vitality and steadfastness so significantly characteristic of the great western metropolis.

Mr. Becker was born in Chicago on the 6th of February, 1870, and is a son of the late Frederick Becker, who was well and favorably known by virtue of his service in various public offices and municipal politics. At the time of the Civil war Mr. Becker's father held a responsible position, to which he was appointed by President Lincoln. Until the time of his death in 1912, he was engaged in the wholesale and retail cigar business, and was a member of the Chicago Historical Society.

The president of the Justrite Manufacturing Company is indebted to the public schools of Chicago for his youthful educational discipline. During his summer vacations he worked as a cash boy in the retail establishment of Marshall Field & Company. The boy liked the mercantile business to such an extent that he left school at the age of fourteen, and entered the employ of Carson, Pirie, Scott & Co., wholesale, as a stock-boy. Here his active mind had full play, and his advancement was rapid. He soon became a salesman in the notions department, and by persistent effort and the development of those qualities which have made him such a success with the Justrite Manufacturing Company, he shortly acquired a wide clientele for his employers. By his keen understanding of human nature, and the ability to meet every man on his own ground, Mr. Becker soon became one of the most popular and successful salesmen in this company's establishment.

Mr. Becker spent 28 years with this company, and thereby gained a wide acquaintance, not only with people, but with modern business methods. However, during all these years, he always had the vision of a business over which and in which he could put his entire energy. In 1906 this vision became a reality when he effected the organization of the Justrite Company. He continued in the employ of Carson, Pirie, Scott & Company, wholesale, until 1912, when he resigned to give his entire attention to the affairs of the Justrite Manufacturing Company. In this connection it is interesting to note that in 1910 the aggregate business of the company totaled \$25,000.00, while that of the year 1916 totaled over \$800,000.00—a fact which bears its own significance.

Mr. Becker's success probably can be traced to his powerful personality, and

his broad vision. He has drawn into the company men of ability in their respective lines of work, and has knitted and co-ordinated their duties into a smooth running organization. He gives his executives a wide range of power in their activities so that each man can develop all of his possibilities, but over all he exercises that administrative touch that keeps all efforts co-ordinated and at the same time stimulated for greater results.

Mr. Becker is a Republican in politics, is affiliated with both York and Scottish Rite bodies of the Masonic fraternity, as well as the Mystic Shrine, and he holds membership in the Birchwood Country Club and the Speedway Automobile Club.

On the 30th of April, 1895, was solemnized the marriage of Mr. Becker to Miss Adele F. Fricke, a daughter of William C. Fricke, of Chicago, and the one child of their union is Frederick W.

AUGIE L. HANSEN

The Vice-President of the Justrite Manufacturing Company, of which description has been given in foregoing paragraphs, has furthered the splendid development of the business not only through his executive ability, but also by means of his inventive talent, as the article concerning the company brings forth. Mr. Hansen was born across the seas in Copenhagen, Denmark, on the 3rd of August, 1879. He is a son of Lawrence W. Hansen, who came with his family to the United States in 1887, and who was engaged in the furniture manufacturing business in Chicago until 1908, when he retired to private life.

Augie L. Hansen was but a boy of eight years when he arrived in this country. He received his education in the public schools of Chicago, but at the age of fifteen he accepted a position in the time-keepers office of the Chicago plant of the Western Electric Company. It was at this point in his life that Mr. Hansen discovered his real ability. He obtained permission to work in the shops of the great plant during the evenings, and the intensiveness and earnestness with which the youth applied himself, was demonstrated when the superintendent, on seeing the character of the articles he had made in his self-instructed way, transferred him from the time-keepers office to the machine-shop as a first class mechanic. During the next six years with this company, however, his ambition never abated, for he spent his evenings of the first four years at the North Division High School where he supplemented his earlier education, and the next two years with private tutors, under whom he specialized in mechanical engineering.

After six years of intensified work with the Western Electric Company, Mr. Hansen joined the Acorn Brass Manufacturing Company of Chicago, where he had charge of the designing and development of special machinery and tools. With this concern he spent three years, but with a desire to acquire a very wide range of the best engineering practice, Mr. Hansen left for the East to acquaint himself with the manufacturing methods of factories in that section of the country.

He obtained his first position with E. W. Bliss & Company, in Brooklyn, N. Y., where he learned the art of steel engraving, besides doing incidental experimental and inventive work. Nine months later he accepted a position with the Manhattan Sewing Machine Company, where he amplified his experience by effective inventive and development work along mechanical lines. While with this company the practicality of his inventive ability was demonstrated when the company took out three patents on his devices. After spending a year with this company Mr. Hansen saw an opportunity to further broaden his experience, and accepted a position with the Driesch Manufacturing Company of New Haven, Conn., where he had greater opportunities to do development and inventive work in connection with the sewing machine and its attachments. While with this company Mr. Hansen again invented a number of valuable devices which were patented by his employers.

It was during his connection with this company that Mr. Hansen received a call to return to his old employers, the Acorn Brass Manufacturing Company, and, as he had acquired four years of intensive though diversified experience in eastern methods, Mr. Hansen accepted. He returned in the capacity of assistant superintendent, and during the next three years applied himself to the invention and development of numerous devices.

In 1910 he associated himself with Mr. Becker in the reorganization of the Justrite Manufacturing Company, and since that time had had entire charge of the manufacturing activities of the company, in addition to the application of his inventive genius to the development of new devices.

Of more than two hundred inventions that stand to his credit the most important are the acetylene lighting systems and fire prevention devices which are manufactured by this company, and which have proved to be the medium of the largely expanded volume of business which the company now enjoys. His basic patents have been approved unequivocally by the staff of professional experts of Thomas A. Edison, and the products therefrom are now in use in every part of the world.

Through all of the years the ambition of Mr. Hansen has always grown, and he is constantly applying his faculties to the invention and manufacture of new and useful articles. He has always taken an enthusiastic interest in inventive and mechanical enterprises, and his admirable record in this respect with important industrial concerns speaks for itself. But he has always sought to broaden his vision along many lines, and in this connection he has had a part in important civic movements. He has always been an earnest supporter of the Republican party, and as a devotee of motoring is an active member of the Speedway Automobile Club of Chicago.

At Evanston, Ill., on the 25th of August, 1906, Mr. Hansen married Miss Agnes Stark, a daughter of Peter J. Stark, a prominent citizen of that city. Mr. and Mrs. Hansen maintain a residence in that Chicago suburban city with their four children—Virginia, William Stark, Betty Jane, and Jack Augie.

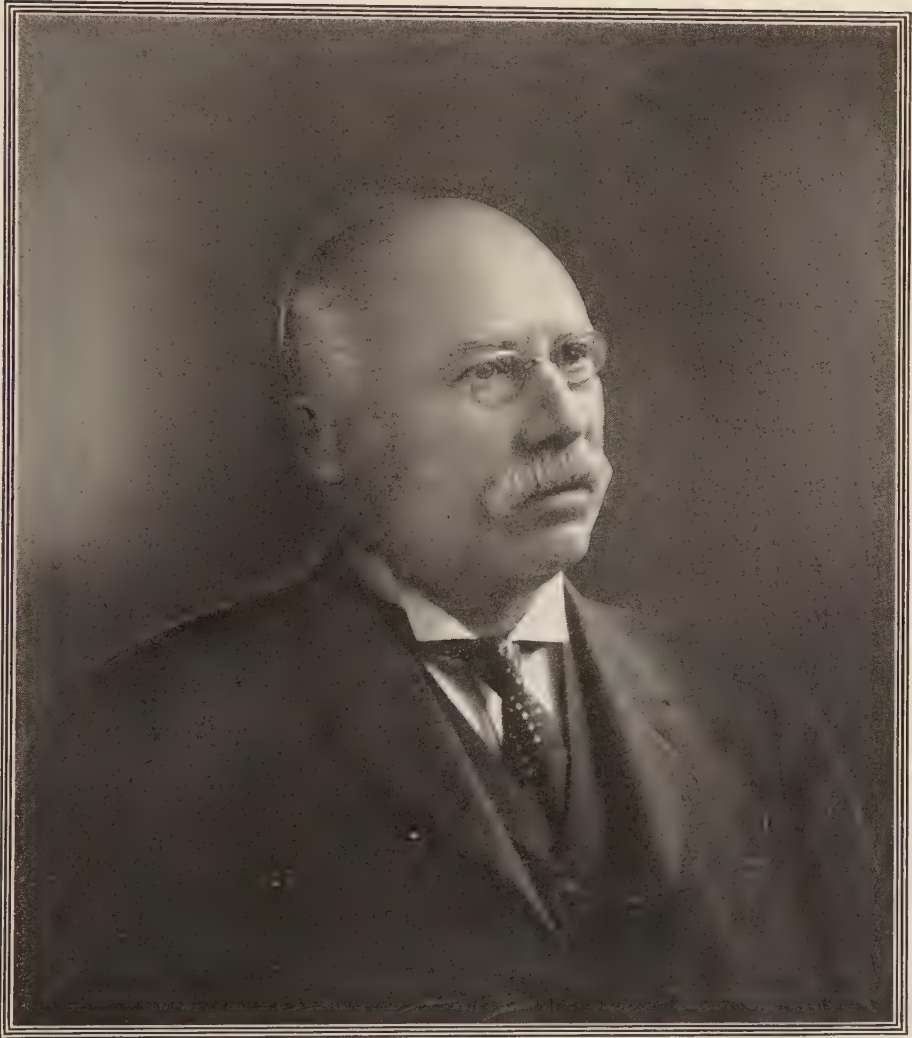
Mr. Hansen's broad and diversified experience has made him a recognized authority on special machinery, and his advice is frequently sought by prominent manufacturing concerns other than that with which he is directly connected.

THE H. CHANNON COMPANY

Basing its operations on ample capital and most effective executive control, this Chicago corporation is one of the oldest and most substantial in its field of enterprise that is to be found in the west, and the business dates its foundation back to the year 1875, when it was established by Henry Channon, the present honored and venerable president of the company. The original functions of the enterprise were represented in a general ship-chandlery business, conducted in comparatively small quarters on South Water street. In 1881, as a matter of commercial expediency, the business was incorporated, and the wide scope of its operations at the present time is indicated by the fact that the capital stock of the corporation is one million dollars. From the original location removal was made to a building a short distance east of the present headquarters at 150 North Market street, and the company likewise maintains a large warehouse at 215 West Ontario street. In the two buildings are utilized for the accommodation of the various departments of the business an aggregate floor space of about one hundred thousand square feet. With the passing years the business has been greatly amplified in its functions, and a specialty is made of the manufacturing of flags and canvas goods, while the R. R. and Contractors' Supply department is one of the largest in Chicago. The company handles varied lines of machinery and mill and machinists' supplies, heavy hardware and supplies for railroad contractors, the trade of the concern being widely disseminated and extending into South America, Mexico, the Canadian provinces, no attention having been given to developing a European export business. The company gives employment to about two hundred and twenty-five persons and has membership representation in the Chicago Association of Commerce and the Illinois Manufacturers' Association. This old and well ordered manufacturing and commercial institution has contributed its share to the industrial precedence of Chicago and its efficiency of service has been maintained at the maximum at all periods of its continuous growth. The personnel of the present corps of officers of the H. Channon Company is as here noted: Henry Channon, president and treasurer; Benjamin Berntsen, vice-president; C. D. Viehoff, second vice-president; and John L. Hanley, secretary.

HENRY CHANNON

The founder of the extensive business of which mention is made in the foregoing context was born in Bridgewater, England, February 24, 1834, a son of Henry and Elizabeth (Dyer) Channon. After his school days he entered upon a seafaring life, and as a sailor before the mast his voyages were far extended, with the result that he visited most of the important seaports of the world. In 1858 he came to Chicago, and for eight years thereafter he continued his active association with navigation interests, as commander of vessels plying the Great Lakes. In 1871 he engaged in business in Chicago, his enterprise being in connection with supplies used in the general lake traffic, and from a modest incep-



CAPT. HENRY CHANNON

tion he vigorously applied himself to the development of what is now one of the most important ship-chandlery and mill and railroad supply houses in the western metropolis. With increasing financial resources Mr. Channon extended the scope of his business interests by establishing subsidiary manufacturing enterprises.

A man of splendid initiative and executive ability, Mr. Channon gained secure vantage-ground as one of the honored and influential captains of industry in the city where he established his home in the pioneer days, and his name merits place on the roster of those who have been the founders and builders of the great western metropolis of the present day. Loyal and broad-minded in his civic attitude, sincere and direct in all of the relations of life, Mr. Channon has lived and labored to goodly ends and has commanded the unqualified respect of those with whom he has come in contact in business and social relations. His political allegiance is given to the Republican party, he is affiliated with the Masonic fraternity, and he holds membership in the Chicago Athletic Association.

December 24, 1860, recorded the marriage of Mr. Channon to Miss Elizabeth Smith, and the four children of this union are James Harrison, Harry, Henry, and Grace. James H. and Harry became actively identified with the H. Channon Company, of which the former was vice-president for a number of years and of which the latter served as secretary.

BENJAMIN BERNTSEN

It is consistent in this connection that specific mention be made of Mr. Berntsen, who is now vice-president of the H. Channon Company, with which he became identified when he was a youth of eighteen years and with which he has worked his way forward to his present and important executive office. Mr. Berntsen was born in Norway, on the 11th of October, 1878, and is a son of Peter J. Berntsen, who was for many years master of vessels on the Great Lakes. In 1880 the family home was established in Milwaukee, Wisconsin, and there Benjamin Berntsen was reared to adult age, his studies having been continued in the public schools until he had completed the curriculum of the high school. At the age of eighteen years he was given the choice of entering college and completing a course therein or accepting a minor position with the H. Channon Company. He chose the latter, in 1895, and the results have been such as fully to justify the selection which he thus made at the inception of his independent career. Step by step he advanced to positions of increasing responsibility and in 1913 he became one of the stockholders of the company. At this time he was chosen second vice-president, and in 1915 he was elected vice-president, the office of which he is now the incumbent.

Mr. Berntsen is a true Chicagoan in his progressive spirit and civic loyalty and takes deep interest in all things touching the well being and advancement of the city that has been the stage of his activities from his early youth. His political support is given to the Republican party.

FRANCO-AMERICAN HYGIENIC CO.

A manufacturing corporation that is distinctly unique in its functions and especially notable for the efficiency of its organization is the Franco-American Hygienic Company, which occupies ample quarters in a large and thoroughly modern industrial and office building at Thirteenth street and Indiana avenue, with office address at 125 East Thirteenth street. The enterprise had its inception in 1889 and its founder was a Frenchman named Delmar, who adopted the above title and engaged in the manufacturing of original toilet preparations of the highest grade. Mr. Delmar continued as the executive head of the business until 1890, when he died. The business came under the management of William Chase in 1890. In 1892 the business was incorporated under the laws of Illinois, Mr. Chase becoming president and treasurer of the company. At this time the business headquarters were established at 415 Dearborn street, where the manufactory and the laboratories and office utilized about two hundred and twenty-five feet of floor space and where the number of employes was not in excess of three persons. The annual business up to this time had attained to no higher an average than about thirty-six hundred dollars. Within a year after incorporation the company removed to the Owen Electric Belt building, at the corner of State and Adams street, and the following year demanded even greater facilities, with the result that removal was made to the Garden City building, at the corner of Fifth avenue and Randolph street. Here the factory and office were installed in a single room, and the splendid growth of the business is indicated significantly by the fact that within the ensuing decade the company was utilizing eighteen rooms and even then found the quarters so limited that it became imperative to secure larger accommodations, the enterprise having developed to such an extent that the annual business aggregated from twenty thousand to twenty-five thousand dollars. Under these conditions removal was made to the Richelieu building at 189 Michigan boulevard, where requisition was made for nearly nineteen thousand square feet of floor space. The company executed a five years' lease of these spacious quarters, but after the lapse of but little more than two years it was found that the accommodations again were inadequate to meet the demands of the constantly growing business, so that the company disposed of its lease and removed to the loft of a building at the corner of Huron and Franklin streets, where operations were continued until the completion of the Franco-American building, which is the present headquarters of the now extensive and important business. The company here utilizes thirty thousand square feet of floor space, the various departments being crowded to capacity limit, and more than one hundred employes being retained in the office and laboratories, the while the average annual business has attained to the noteworthy aggregate of nearly four hundred thousand dollars. The high-grade products are handled exclusively by local agents and nearly the entire output is sold in the United States, the trade being disseminated through all sections of the Union. To accommodate the extensive trade on the Pacific coast, the company maintains a branch establishment in the city of Oakland, California, and from this branch is controlled the Pacific coast states. The two principals have insistently continued the company as a close corporation and have never disposed of a dollar's worth of its stock. Splendid initiative and executive ability has been brought to

bear in the development of the remarkable enterprise, and the profits of the concern have been put back into the business under a careful and well ordered policy of normal expansion.

The company found it inexpedient to attempt the advertising of its various preparations through standard mediums, and under these conditions its principals devised and developed a novel plan to bring its products to the attention of the public. This was through sending forth capable demonstrators to present in a direct way the preparations to the consumer and by this means to show the superiority of the various products and their proper application. The policy, as carefully worked out in a practical and straightforward way, brought a wide popular appreciation of the values of the toilet preparations, and the business grew by leaps and bounds. The result has been that the company, a pioneer in such exploitation, is now undoubtedly the largest concern of its kind handling its output in this manner.

The company publishes for the instruction and entertainment of its retailers a most attractive monthly brochure known as the *Franco-American Chit-Chat*, and the same contributes much to the furtherance of the business. Of the various high-grade products from the carefully ordered laboratories and factory of this company it is needless to attempt description, but of the major specialties manufactured the following names may be noted: Astringene, Balmygiene, Beautigiene, Depilagiene, Cucumbergiene, Dematint, Drytint, Bathygiene, talcum powder, Curodor, Perspirgiene, eyebrow pencils, lip sticks, Cutigiene, Eogiene, Sandalon Cerae, Dermagiene, Sandalon and Franco face powders, Liquigiene (liquid powder); teeth and mouth requisites, including Antiseptigiene, Franco tooth paste, Dentagiene and Franco-American tooth powder; hair and manicuring preparations, soaps, shaving preparations, toilet waters, perfumes and various culinary and household requisites. Application in a direct way by letter to the company will bring full descriptive literature, and it is assured that every preparation is manufactured in accordance with the highest hygienic principles and methods, each is equal or superior to the finest foreign products. The success of the business affords the best voucher for the superiority of the preparations offered by the company. In short there is all of consistency in the following announcement: "Franco-American toilet and household requisites embody integrity in quality, purity in ingredients, refinement in appearance, harmony in results, and are practical in utility, meeting every requirement of the intelligently discriminating."

WILLIAM CHASE

William Chase, president of the Franco-American Hygienic Company, of which description is given in the preceding context, has proved himself a man of thought and action, of initiative and of marked resourcefulness. This is attested in the foregoing record of the development and upbuilding of the remarkably prosperous business enterprise of which he is the head. Mr. Chase was born in the city of Albany, New York, on the 4th of July, 1865, but he was an infant at the time of the family removal from the capital city of the Empire

state to Canandaigua, New York, where he profited duly by the advantages afforded in the public schools. At the age of fifteen years he went to Missouri, and he remained in the west about ten years, residing for varying intervals in different states. He had in the meanwhile advanced himself as a musician, and acquired some skill as a pianist. As a musician he came to Chicago in the year 1887, and here he continued to give his attention to teaching of pianoforte until 1889, when he became associated with the business of the Franco-American Hygienic Company, of which he has since been president and his splendid achievement in this connection is shown in the record already given of the company.

Mr. Chase continues to take interest in musical matters and is also a member of the Chicago Art Institute and the Illinois Athletic Club and the Hinsdale Club.

FRANK M. WELSH

Frank M. Welsh, secretary and general manager of the Franco-American Hygienic Company, has proved a most able coadjutor of the company's president, Mr. Chase, in the progressive exploiting of the high-grade products manufactured by this corporation, and his vigorous policies both in the factory and in the directing of the commercial phases of the business have been strong conservators of the success of the enterprise, a preceding article giving a review of the development and upbuilding of the business.

Mr. Welsh claims the old Buckeye state as the place of his nativity, his birth having occurred at Wyandot, a village in the Ohio county of the same name, on the 29th of October, 1875, and his early education having been received in the public schools of Bucyrus, judicial center of Crawford county, Ohio. At the age of fifteen years Mr. Welsh came to Chicago. Here he was for seven years in the employ of the Adams Express Company, and thereafter he was actively identified with the theatrical business about three years. In 1902 he became associated with William Chase and the Franco-American Hygienic Company, and since that time he has given most effective administration as secretary and general manager of this company. He is affiliated with the Masonic fraternity, and holds membership in the Illinois Athletic Club and the Olympian Fields Golf Club.

THOMAS ELEVATOR COMPANY

At this point it is permitted to direct attention to one of the pioneer industrial institutions of Chicago and one whose importance is not a matter of conjecture, for the company not only controls a large and representative business but is one of the largest concerns in the United States engaged in the manufacture of electric hoists for the use of construction contractors. On its products, the company controls fifty patents and the general mechanical equipment of the manufacturing plant is of the best modern type. This unique industrial enterprise had a modest inception, in the year 1873, and was founded by H. H. Thomas, who initiated operations in a small building on the site of the present

modern plant of the company, at 22 South Hoyne avenue. Here Mr. Thomas began the manufacturing of hoists that were operated by either hand or steam power, according to class of service to which they were to be applied. The enterprise was thus started within a short time after Chicago had been swept and devastated by one of the greatest urban fires known to history, and in the work of rebuilding the prostrate city there was such demand for the Thomas hoists in connection with important building operations that the business of the little pioneer manufactory expanded with remarkable rapidity. Mr. Thomas developed a substantial and prosperous business and continued as its executive head until his death, in 1880, the while he gained precedence as one of the representative manufacturers and liberal and progressive citizens who aided in the wonderful development of Chicago after the great fire of 1871. A man of great energy, sterling character and marked business acumen, he commanded unqualified popular esteem and his name and memory merit recognition in this industrial history of the western metropolis.

After the death of the founder of this industrial enterprise his brother, Charles E. Thomas and his other brother Emmett A. Thomas, assumed control of the business, and while adhering closely to the basic commercial policies adopted by the founder of the business they kept pace with the march of progress, infused vital energy into the business, and made each successive year record definite expansion of the enterprise in scope and importance. Finally, in 1900, as a matter of commercial expediency, the business was incorporated under the present title, the Thomas Elevator Company. Emmett A. Thomas has served as president of the company from the time of its incorporation and Charles A. Thomas was its vice-president until his death, which occurred in 1901. Since that time Emmett A. Thomas has continued in individual control of the business. At the time of incorporation provision was made for amplifying the industry by instituting the manufacturing of electric hoists of all sizes, and the adopted policy of the company was the renting of the hoists to contractors engaged in the construction of bridges, buildings, etc. The lease in each instance was made to cover one special contract of this order, and after the completion of the contract the hoist was returned to the elevator company, in order that it might be readjusted and put in perfect repair, thus making it available for use in connection with the next lease recorded. This effective policy of operations is still continued by the company and has been found mutually satisfactory both to contractors and the owning corporation.

The Thomas Elevator Company has the distinction of having been the first in the United States to manufacture electric hoists for such constructive use, and its supremacy in this special field of manufacturing has continued to the present time, as evidenced by the fact that many of the extensive building and bridge contractors throughout the entire United States utilize the Thomas electric hoists exclusively. Members of the company's engineering staff have been the inventors of the various devices which go to make up the highly efficient electric hoists produced, and of these various patent all have been assigned to the company, the most important of the number being the Thomas band-friction drum. Within the past fifteen years the continuous growth of the company's business has necessitated the definite enlargement of the manufacturing plant and its equipment, the plant now comprising seven substantial buildings that afford sixty-

five thousand square feet of floor space and that are essentially modern in construction, facilities and mechanical equipment. In the handling of the work of the shops the best type of traveling cranes is employed, and the lathes and other machines are of the best standard grade. In the factory employment is given to an average force of one hundred and twenty-five skilled mechanics and in the management of the executive details of the business Mr. Thomas has enlisted the co-operation of able and valued assistants. It may be noted that among the large and representative Chicago contracting firms utilizing Thomas Electric Hoists are the Thompson-Starrett Company, the George A. Fuller Company, Stone & Webster, the Lanquist & Illsley Company, and in fact every large building contracting company in Chicago and many in New York and elsewhere. The Thomas Elevator Company is represented in membership in the Illinois Manufacturers' Association, the Chicago Association of Commerce and the National Association of Commerce.

VALENTINE-SEAYER COMPANY

In the manufacturing of high-grade upholstered furniture this company controls a substantial business and has gained in its sphere of enterprise a place of definite priority. In the year 1899 Louis L. Valentine and W. J. Barnhart formed a partnership and on a modest scale began the manufacturing of upholstered furniture. The firm leased three thousand square feet of floor space in the rear of a building on Michigan avenue near Eighteenth street, equipped these quarters for a factory and at the beginning here gave employment to only two men,—an upholsterer and a finisher. In June, 1899, Mr. Barnhart sold his interest in the business to Andrew E. Seaver, and in this readjustment the present title of Valentine-Seaver Company was adopted. The original function of the business involved the contracting for the upholstering of furniture for a number of the representative retail furniture establishments in Chicago, and the excellence of the work combined with progressive policies to bring assured and cumulative success to the new concern. To accommodate the expanding business additional factory space was required from time to time and the force of employes was increased in consonance with demands. In 1901 the company removed its factory to the present quarters, at 1721 Sedgwick street, where was effected a lease of the second floor of the old Sedgwick street car barns, the use of which had been abandoned by the street-car company. Here was secured an aggregate floor space of ten thousand square feet and the general productive facilities of the factory were notably augmented, the force of employes being increased to sixteen skilled workmen. Each successive year showed a marked increase in the business and the sales for 1903 aggregated fifty-four thousand dollars. At this time it was found requisite to acquire a second floor of the building and thus to double the space occupied, the general policy having been one of normal advancement from the time of the inception of the enterprise. The Valentine-Seaver Company was incorporated in the year, October 18th, 1899, with a capital stock of ten thousand dollars, Andrew E. Seaver becoming president and Louis L. Valentine the secretary and treasurer of the company. This progressive cor-

poration now utilizes the entire floors of two buildings adjacent to the one already mentioned, and the three buildings give the concern a floor area of seventy-five thousand square feet, while the corps of employes now averages about one hundred and fifty persons.

In April, 1906, a subsidiary corporation was organized for the manufacturing of the frame work of the upholstered furniture. Messrs. Valentine and Seaver thus established the Century Parlor Furniture Company, as an adjunct institution. The high-grade frames manufactured by the subsidiary company are turned over to the Valentine-Seaver Company for upholstering and finishing, and thus the principals in the latter corporation figure prominently as manufacturers of fine parlor furniture in entirety, Mr. Seaver being president of the Century Parlor Furniture Company, Mr. Valentine being its secretary and treasurer and Joseph F. Brabec being vice-president and general manager. The sales of the furniture manufactured by the two companies aggregated fully eight hundred thousand dollars for the year 1917, four traveling salesmen representing the concerns and the products being now sold throughout the United States and the Canadian provinces, besides which a substantial and constantly expanding trade is controlled in Mexico and South American countries.

Each of these two progressive corporations that have been developed by Messrs. Valentine and Seaver has membership in the Chicago Association of Commerce, the Illinois Manufacturers' Association and the Chicago Furniture Manufacturers' Association, and Mr. Valentine served as president of the latter organization in the year 1908.

LOUIS L. VALENTINE

Louis L. Valentine, secretary and treasurer of the Valentine-Seaver Company and of the Century Parlor Furniture Company, was born at Lexington, McLean county, Illinois, on the 10th of May, 1865, and is a son of the late William Valentine, who was born and reared in Germany and who there served a thorough apprenticeship that gained him prestige as an expert cabinetmaker. In 1854 William Valentine established his residence at Lexington, Illinois, and there he became a pioneer exponent of the retail furniture business and also as a manufacturer of fine cabinetwork. He was one of the honored and influential citizens of Lexington and there continued his association with business activities until his death.

Louis Lincoln Valentine gained his youthful education in the public schools of his native place and there he acquired simultaneously a valuable experience in his father's furniture store and shop. He began to assist his father when he was a lad of fourteen years, and eventually learned to construct skillfully any piece of high-grade furniture from the raw material, his discipline in this line having been acquired under the effective direction of his father. After having applied himself in this field of enterprise for several years Mr. Valentine applied himself to farm work about two years, but the life of the husbandman did not make lasting appeal to him and in 1886 he came to Chicago, where he obtained a position as clerk in a retail furniture establishment. One year later he accepted

the position of department manager for the Henry Stucker Furniture Company, with which he continued his alliance two years. He then resigned to accept the position of city salesman for the Wakefield Rattan Company, and he continued the efficient incumbent of this position until he became one of the principals of the Valentine-Seaver Company.

Mr. Valentine maintains an independent attitude in connection with municipal politics but in national affairs is arrayed as a staunch supporter of the cause of the Republican party. In the time-honored Masonic fraternity he has received the thirty-second degree of the Ancient Accepted Scottish Rite, and he holds membership in the Illinois Athletic Association, the South Shore Country Club and the Westmoreland Club, his outdoor recreation being shown in his fondness for trout-fishing expeditions. In the year 1898 Mr. Valentine wedded Miss Anna Louise Paul, of Arcadia, Wisconsin, and they maintain their residence in the beautiful suburb of Evanston.

ANDREW E. SEAVER

Andrew E. Seaver, president of the Valentine-Seaver Company and the Century Parlor Furniture Company, was born on the parental homestead farm in Boone county, Illinois, and the date of his nativity was July 19, 1869. His father, William Seaver, was born and reared in Norway and came to the United States in 1844. William Seaver made his way to Chicago, which was then a small, insignificant and unattractive city, and thence he traveled with wagon and ox team to Boone county, Illinois, where he secured a tract of wild land and became a pioneer exponent of agricultural industry. Success attended his earnest and indefatigable efforts and he became one of the representative farmers and prominent and influential citizens of his community, with secure place in the confidence and esteem of all who knew him.

The childhood and early youth of Andrew E. Seaver were compassed by the benignant influences of the home farm, and in the rural schools of his native county he gained his early educational discipline. He continued his active association with the basic industry of agriculture until he had attained to the age of twenty years, when, in April, 1889, he came to Chicago and found employment in the Johnson Chair Company, of which two of his uncles were the proprietors. He remained with this representative Chicago concern for a period of eleven years and in the meanwhile served in various capacities,—from that of shipping clerk to that of city salesman. He became one of the principals of the present Valentine-Seaver Company prior to leaving the employ of the Johnson Chair Company, and finally the splendid growth of the independent business enterprise demanded that he give to the Valentine-Seaver Company his undivided attention. He has through his own ability and efforts won place as one of the representative figures in the industrial and commercial circles of Chicago and is a broad-gauged and progressive citizen. Mr. Seaver holds membership in the Illinois Athletic Association and the Westmoreland Country Club.

On the 27th of June, 1900, was solemnized the marriage of Mr. Seaver to

Miss Bertha Moe, daughter of Mr. and Mrs. Bernt Moe, of Chicago and their daughter, Florence is the only child.

THE LATHAM MACHINERY COMPANY

Under the corporate title noted above is conducted one of the large and representative industrial and commercial enterprises of the western metropolis, and in its special field of high-grade mechanical production this corporation has become one of the largest in the United States, while its trademark, "Monitor,"



has become widely recognized as an assurance of the finest and most effective types of wire stitchers, punching machines, perforators, paging and numbering machines, creasing and scoring machines, round-corner cutters, bench lever embossers, standing presses, job backing-machines, board shear and other devices manufactured by the company and all bearing the name "Monitor." The special provinces of the enterprise, as the above list indicates, is in the manufacturing of machinery for printers, bookbinders and boxmakers, and the various designs of Monitor wire stitchers are recognized as the ultimate of excellence in construction and in efficiency of operation, the same holding true of all other products sent forth by the concern. The company maintains its manufactory and general offices in Chicago, with branches in the cities of New York and Boston. The well equipped Chicago plant occupies a substantial industrial building at the corner of Ann and Fulton streets.

The large and prosperous industrial enterprise now controlled by the Latham Machinery Company was founded in 1884, by Harry H. Latham, the present executive head of the corporation. He initiated operations on a small scale,

at what was then No. 318 Dearborn street, prior to the adoption of Chicago's present effective system of street numbering. There he utilized a floor space of about fifteen hundred square feet, and there he engaged in the manufacturing of paper cutters, punching machines and other standard mechanical devices and machinery utilized by printers, bookbinders and publishers. Incidentally he became also local agent for the sale of paper-box machines and gasoline engines. With marked natural and acquired ability as a machinist and with definite inventive talent, Mr. Latham soon began to direct his attention and study to the perfecting of a wire stitching machine, and on his fine new device in this line he received letters patent from the United States in the year 1893. In the meanwhile his business has shown a steady and healthful growth, and the favorable estimate placed upon his improved wire-stitching machine led him to assured confidence in the ultimate results to be attained in the general manufacturing and introduction of the same. To make provision for such enlargement of his manufacturing facilities, early in 1894 he removed his plant to 304-12 South Canal street, and here he initiated the manufacturing of his wire-stitching machines, to which he gave the name "Monitor," in recognition of the fact that the first sale of one of the machines was made to the Monitor Publishing Company of Rockford, Illinois. This name has been retained as the trademark on all of the later patents representing inventions of Mr. Latham, and these have been of no inconsiderable number and importance. In the new location the factory utilized about fifteen hundred square feet of floor space, and with the expansion of the business demands for larger accommodations were met by the securing of more space in the same building, until the total amounted to more than thirty thousand square feet. At these quarters operations were continued until May, 1916, when removal was made to the present modern factory building, where the company now utilizes forty-five thousand square feet of floor space.

In the year 1898 Mr. Latham sold to the United States government forty of the Monitor wire stitching machines for use in the binding of public documents. He received patents on his improved punching, embossing and perforating machines and he has to his credit the inventing and patenting of about fifty different machines and devices specially designed for the use of printers, bookbinders and boxmakers. When the high cost of lumber led to the manufacturing of fiber boxes for industrial and commercial purposes and the new product gained popularity, Mr. Latham, in 1905, invented and patented a machine for the manufacturing of such boxes, and these machines, manufactured by the company of which he is president, are now in general use by manufacturers of boxes of this type. In the plant of the Latham Machinery Company steady employment is now given to a force of about one hundred and fifty persons, including many highly skilled mechanics, and the annual business of the concern has now attained to an average of more than three hundred thousand dollars.

HARRY H. LATHAM

The president of the company concerning which record is made in the foregoing review, was born at Sandwich, Illinois, on the 19th day of September,



HARRY H. LATHAM

1859, and is a son of the late Hubbard and Lucy Ann (Barnes) Latham. Hubbard Latham was for many years one of the substantial and successful exponents of farm industry in Illinois and eventually became president of the Sandwich Manufacturing Company, which developed a large industry in the manufacturing of agricultural implements, and he was a member of the directorate of this company at the time of his death.

Harry L. Latham is indebted to the public schools of Sandwich for his early educational discipline, which was supplemented by a higher course of study in the Northwestern University, at Evanston. At the age of eighteen years he went to the west as a civil engineer, and eventually he had charge of the construction of the narrow-gauge railroad from Battle Mountain, Nevada, to Austin, that state. He surveyed the line and supervised the construction of the road, in the capacity of division engineer, and two years later he engaged in independent business as a mining engineer and assayer, at Lewis, Nevada. Later his association with railway construction and engineering work brought him into professional prominence in Utah, Idaho, Montana and Washington, and it was not until 1884 that he returned to Illinois and became the founder of the business now conducted by the Latham Machinery Company. This company is represented in membership in the Chicago Association of Commerce, the Illinois Manufacturers' Association, and the National Metal Trades Association, of which last mentioned organization Mr. Latham was president in 1907-8.

Mr. Latham has a wide circle of staunch friends in both business and social circles in Chicago, and here he had the distinction of serving nine years on the board of directors, also as vice-president and president of the Chicago Athletic Association in 1916. He is likewise actively identified with the Iroquois Club, the South Shore Country Club, the Edgewater Golf Club, and in the Masonic fraternity he has received the thirty-second degree of the Scottish Rite.

He was married on the 6th of October, 1885. His eldest child is Harry O., who was graduated in the University of Chicago, with the degree of Bachelor of Arts, and who thereafter continued to be associated with his father's business until 1914, since which time he has been engaged in the advertising business in Chicago and now of New York City. The younger son, Paul H., has been connected with the Latham Machinery Company since 1907, and is general sales manager. The youngest is their daughter Ruth, attending school at Dana Hall, Wellsey, Massachusetts.

GULBRANSEN-DICKINSON COMPANY

Concentration rather than diffusion of energy is the unmistakable trend of the day in industrial life, and the consistency of the policy has been clearly demonstrated in tangible results of the most unequivocal significance. A really great industrial concern that has been developed through such specialization not through knowing something about everything but everything about something,—is that of the Gulbransen-Dickinson Company, known as inventors and manufacturers of the most advanced and perfect types of player-pianos and player actions. Special attention is given to the really marvelous Duo-

Concerto, representing the invention of Axel G. Gulbransen, president of the company, this device making possible the installment of the most approved type of player action in the ordinary grand and upright pianos. Of this product of this representative corporation more specific mention will be made in later paragraphs.

The Gulbransen-Dickinson Company was organized in 1906, in which year it was incorporated under the laws of Illinois, with a capital stock of sixty thousand dollars and with the following named officers: Axel G. Gulbransen, president; D. K. Dickinson, vice-president and secretary, and E. B. Healey, director and counsel. The original quarters occupied by the new corporation comprised one floor of an industrial building at 1217 Union Park court. In 1911 removal was made to the building at 1216-18 on the same street, and here the entire six story building was utilized by the company until 1914, when was purchased the entire plant of the H. P. Nelson Piano Company, the business of which had been founded in Chicago in 1856. Extensive improvements were made on the plant and the Gulbransen-Dickinson Company now owns and utilizes in Chicago, the most modern player-piano factory in the world. This great plant affords four hundred thousand square feet of floor space and has ample ground for direct switching that gives the best of transportation and shipping facilities, the institution being eligibly situated at North Kedzie, North Sawyer and West Chicago avenues. The business of the company is now based on a capital stock of six hundred thousand dollars, the corps of employes number six hundred and fifty and the annual business has attained to the average aggregate of fully two million dollars. The present officers of the company are: Axel G. Gulbransen, president and treasurer; D. K. Dickinson, vice-president; and E. B. Healey, secretary, and the history of the concern has been one of unusual and steady growth and development, based upon the recognized superiority of products, and the high reputation established and maintained. The Gulbransen piano-players bear an enviable reputation in the music world, and concerning the splendid invention the following estimate has been given: "The Gulbransen players have always been notable for easy playing, simplicity, efficiency and durability. The 1916 Model Gulbransen differs from and is an improvement upon all preceding Gulbransen models. It has set a new standard of excellence and refinement in the piano-player art. The Gulbransen non-visible player action is made so that it can be placed in an upright piano without the slightest change in the appearance, action or tone of the instrument. This is unusual, and is a very important fact. Mr. Gulbransen early recognized the cardinal principle that the piano was perfected long before the player was ever thought of, therefore the player should be made to fit the piano instead of changing construction of the piano to accommodate the player. "The Gulbransen player fits any piano regardless of its make." It is the product of the player manufacturing company, whose founder, surrounded by the gracious environment of music and endowed with inventive genius coupled with the determined purpose that makes men strive unceasingly to reach the desired goal, is the musical architect who designed, invented, patented and produced the marvelous device. The policy and methods of the company have ever been marked by strict adherence to the principles of business integrity and absolute dependability—none of those petty evasions or cheap substitutions too often made use of and

permitted to pass current in the business world as "tricks of the trade," have ever been countenanced here; the policy of a nationalized price is strictly adhered to in the result that the public including both the dealer and the individual user has come to know that the name of Gulbransen-Dickinson is a guarantee of quality and fair dealing.

AXEL G. GULBRANSEN

The president of the Gulbransen-Dickinson Company was born in the city of Christiana, Norway, in the year of 1860, and is a son of Hans O. Gilbransen, who was there engaged in business as a cabinet maker,—a man of exceptional skill as an artisan in this line. Axel G. was but a lad of eleven years when he came with his parents to America in 1871. The family home was established at Mendota, Illinois, and there the boy soon found employment in the organ manufactory of Twekesbury & Carpenter, there beginning a novitiate in the line which became his life's work and in which he was destined to achieve signal distinction and success. He soon won promotion to the position of inspector in the factory, and after serving in this capacity five years he resigned the post to accept a position in the factory of the Carpenter Organ Company, Worcester, Massachusetts. During his three years' association with this company he greatly amplified his experience and finally was made assistant manager of the factory. Upon his resignation of this executive position he returned to Mendota, Illinois, and entered the employ of Carpenter, Scott & Wise, successors to Twekesbury & Carpenter. Within a short time, however, he went to Brattleboro, Vermont, where he was for one year connected with the local branch establishment of the Carpenter Organ Company, by which he had previously been employed. In 1883 Mr. Gulbransen became connected with the Story & Clark Organ Company of Chicago, where he later won promotion through successive advancement, to the positions of foreman and superintendent. Later he assumed a similar position with the Melvil Clark Piano Company. In 1905 he resigned his position to engage in independent experimental and inventive work, at Sycamore, Illinois. It was at this time that he began his series of experiments in the designing and construction of the new celebrated player piano action that bears his name, and it was after he had perfected his invention that he effected the organization of the Gulbransen-Dickinson Company, for the manufacture of his improved player action devices. He has since continued president of this company and its splendid success has been primarily due to his inventive skill and his well ordered and progressive executive policies. He is now one of the representative figures in Chicago's industrial life; is a member of the Illinois Piano Manufacturers' Association, the Chicago Piano and Organ Club, the Hamilton Club, the Illinois Manufacturers' Association and the Chicago Rod and Gun Club.

THE STEWART-MOWRY COMPANY

The well equipped manufacturing plant of this company is situated at 3214-3222 Shields avenue and is one of the largest in Chicago devoted to the manu-

facture of high-grade varnishes, the enterprise having been founded in 1899, by James S. Stewart and Louis C. Mowry. In the incorporation of the company, under the provisions of the laws of Illinois, Mr. Stewart became president of the new corporation, Mr. Mowry its vice-president and treasurer, and William J. Anderson secretary. The original quarters, at 3218 Shields avenue, afforded a floor space of one hundred and fifty thousand square feet, and the enterprise was attended by a substantial growth each successive year, so that eventually it became necessary to increase the dimensions of the factory. By 1906 the floor space was increased by forty-four hundred square feet, and special machinery and appliances were installed for the production of the remarkably high-grade "Gold Cross" varnishes, which have given the company high reputation and are extensively used by manufacturers of automobiles and carriages as well as the railroad corporations. This company is the most extensive buyer of 5-X copal gum in the United States, and this fact alone indicates the insistent policy maintained in the production of varnishes of the maximum excellence. From a brochure issued by the company are taken the following pertinent extracts concerning the Gold Cross varnishes:

"In placing before you this line of varnishes, we feel we are filling a long-felt want of the builders and users of high-class carriage and automobile work,—a product that in applying combines the safety and freedom of the best American types of varnish with the extreme durability of the best foreign makes. After more than thirty-five years of careful study, by the members of our company, of the wants and requirements of the most critical users of varnishes of high grade, and fifteen years of constant effort to develop and bring out this line of Gold Cross varnishes, we believe we are offering a faultless line, from japan to finishing varnish, and that a comparative test will convince the most skeptical of the superior merit of our Gold Cross varnishes. Under such conditions we court comparisons and tests of merit with any and all competitors, as the Gold Cross varnishes, each and every article so branded by us, represent the best quality possible to produce, regardless of the cost of raw material, labor and time in producing. The Gold Cross brand is copyrighted, and the distinctly high-class products issued by us under this trademark are certain to meet the demands of those who want the best possible results."

The trade of the Stewart-Mowry Company has been extended throughout the United States, the superiority of products having gained to the concern a reputation that is a distinct commercial asset, and the goods of the company being effectively handled through the medium of manufacturers and the jobbing trade. Of the various types of varnishes manufactured the literature issued by the company gives adequate description. The officers of the company at the present time are as here designated: James S. Stewart, president; Charles H. Smallwood, vice president and treasurer; and William J. Anderson, secretary.

James S. Stewart, president of the company above reviewed, was born in the city of London, Ontario, Canada, in 1847, and there he received his early education. At the age of seventeen years, in 1864, he came to the United States, and he has been a resident of Chicago since 1882. He has had broad and practical experience in the manufacturing of varnish and has become one of the representative exponents of this line of industrial enterprise in the land of his adoption. He is loyal in the support of those measures and enterprises that make for the

general wellbeing of the community, is one of the substantial business men and popular citizens of Chicago and among other social and civic organizations he holds membership in the South Shore Country Club.

Charles H. Smallwood, the vice-president and treasurer of the Stewart-Mowry Company, has been actively associated therewith since 1907, and he claims Ohio as the place of his nativity.

William J. Anderson, secretary of the company, was born at Brantford, Province of Ontario, Canada, in 1867, has been a resident of the United States since 1888 and has been secretary of the Stewart-Mowry Company from the time of its incorporation. He is possessed of thorough scientific and technical knowledge concerning the manufacturing of varnishes and has a general supervision of the large factory of the company.

KROECK PAPER BOX COMPANY

The modern and thoroughly well equipped manufacturing plant of this company is established at 216-220 Institute Place, and the business had its inception fully a quarter of a century ago. In 1892 R. C. Hauf and George J. Kroeck formed a co-partnership for the purpose of manufacturing and dealing in paper boxes, and the original headquarters of the new enterprise were in a building at the corner of Lake and Jefferson streets. By the end of the first year the business, under vigorous and efficient management, had attained to such proportions as to make imperative the securing of larger quarters. Accordingly, in 1893, removal was made to a building at 423 West Lake street, as designated by the former system of street numbering in Chicago, and here was obtained a floor space of eight thousand square feet, the force of employes being increased to about sixteen. In 1899 Mr. Kroeck purchased the interest of his partner and continued the business in an independent way, under the title of George J. Kroeck & Company, this title having been retained until 1916.

In 1906 the manufacturing plant of the concern was destroyed by fire, and while the new building was in process of construction on the same site Mr. Kroeck continued the business in a building at the corner of Peoria and Lake streets. In 1913 Mr. Kroeck purchased the plant and business of the Julius Kluefer Paper Box Company, which had been incorporated under the laws of Illinois in the year 1893, so that the two enterprises, of closely allied order, had virtually an almost simultaneous inception. At this juncture Mr. Kroeck removed the machinery, stock, etc., of the newly purchased plant to a building at 220 Institute Place, and the institution was placed in charge of his son Arthur H. The original Kroeck factory was continued in operation on West Lake street until 1916, when the accommodation proved entirely inadequate, and as additional floor space could not be obtained at that location the two plants were consolidated under the charter of the Julius Kluefer Paper Box Company, the title of the corporation was changed to the Kroeck-Kluefer Paper Box Company, the capital stock was appreciably augmented, additional floor space was secured at the location on Institute Place, and the combined plants were provided with new and modern machinery, so that the facilities of the institution are now of the best

in all departments. The officers of the company since 1916 have been as here noted: George J. Kroeck, president and treasurer; B. M. Kroeck, vice-president; and Arthur H. Kroeck, secretary and general manager. At the time of the consolidation the George J. Kroeck & Company manufactory retained a corps of about forty employes and the Julius Kluefer Paper Box Company about fifty. Under the centralized control the business has expanded in a most substantial way, the number of employes averages one hundred, five floors are utilized in the prosecution of the business in its various departments, with an aggregate floor space of about thirty-five thousand square feet, and the company manufactures a large and diversified line of paper and wood-side boxes for general commercial use, as well as shelf and filing cases. Each of the two concerns represented in the consolidation had a well established business and impregnable reputation for efficient service, so that the coalition in itself implied the retention of a large and representative patronage. The company has membership in the Chicago Association of Commerce, the Associated Employers of Illinois, and the Western Paper Box Manufacturers' Association, of which last mentioned organization George J. Kroeck has been treasurer since 1904. In 1917 the official name was change to Kroeck Paper Box Co.

GEORGE J. KROECK

George J. Kroeck was born in Chicago in the year 1866, a scion of one of the old and honored German families of this city. His early education was acquired in the public schools and he gained his initial experience in the paper-box trade when he was a lad of fourteen years. He served a thorough apprenticeship and has kept in close touch with the advances made in the manufacturing of paper boxes, with broad and authoritative knowledge of all details of the business. He continued to follow the work of his trade until 1892, when he initiated independent operations as a manufacturer, the record of his business career since that time being adequately outlined in the foregoing article. He is a member of the Traffic Club, Germania Club and the Ridgemoor Country Club, and he has secure status as one of the substantial and valued factors in the industrial circles of Chicago. His son Arthur H., who is now secretary and general manager of the business of the Kroeck-Kluefer Paper Box Company, was born in Chicago in the year 1891, and after leaving the public schools he took a special course in Northwestern Academy. His business career has been one of close association with the paper-box business and he is one of its progressive and popular exponents in his native city.

LUTTER BRICK COMPANY

This is another of the important industrial concerns of Chicago to which may be ascribed pioneer distinction, as the business was founded in the year 1867, by the late Henry Tille and in 1868 by the late Henry Lutter both having been born and reared in the Kingdom of Hanover, Germany, and their ability and

worthy character won for them prestige and influence as business men and honored citizens of Chicago. It was owing to the retirement from business of Henry Lutter and the death of Henry Tille in 1877 that Henry J. Lutter now president of the Lutter Brick Company, and vice-president of the Lake View Brick Company, he having chosen as his wife a daughter of the late Henry Tille, so that he was respectively son and son-in-law of two pioneer brick manufacturers of the western metropolis. Was called upon to take over the management of the plant conducted by Mr. Tille on property what is now Diversey Parkway and Southport Avenue and engaged in the manufacturing of brick in a modest way, all moulding of brick was done by hand in that day. The original brickyard of Henry Lutter was located at the corner of Ashland and Wrightwood avenues, the output of the little factory during the season averaging about eight thousand brick daily. The brick were dried in the sun and then burned in the primitive kilns. Henry J. Lutter has perpetuated and enhanced the prestige of the family name in connection with the brick manufacturing industry and also as a loyal and progressive citizen, the further record of the company's of which he is president and vice-president being more readily told in connection with a review of his career, said record appearing in paragraphs that follow this article.

HENRY J. LUTTER

Henry J. Lutter, president of the Lutter Brick Company and vice-president of the Lake View Brick Company, was born in Hanover, Germany, on the 13th of March, 1855, and was an infant at the time when the family home was established in Chicago. Here he attended the public schools and also received instruction under the direction of private tutors. As a lad of fifteen years he began the study of architecture and theoretical masonry in the office of a leading Chicago architect, and here he applied himself until he had become an expert draftsman. In the year 1877 he formed a partnership with August Bauman and the firm of Bauman & Lutter developed a substantial and prosperous business as contractors and builders. In 1878 Mr. Lutter sold his interests in this business as he found full demands upon his time and attention in the management of the brick manufacturing business of his father-in-law, Mr. Henry Tille, whose death had occurred in the preceding year. He continued operations at the original location until 1879, when he organized the Lutter Bohnsack Brick Company, with William Bohnsack as his associate in the business. They purchased property at the corner of Ashland avenue and Wellington street and there equipped a plant that had a capacity for the manufacturing of sixteen thousand brick daily, all moulding work being still done by hand, as this was prior to the erecting of mechanical devices for the purpose. In 1887 the partners acquired the adjoining brick yards of Charles Schroeder which had been conducted by the Schroeder Brick Company, but within a short time thereafter the partnership was dissolved. Mr. Lutter continued operations at the old plant until the supply of clay on the property became exhausted, besides which the site of the plant became more valuable for building purposes. Since Mr. Lutter sold his property it has been developed into a densely settled residence district.

In 1889 Mr. Lutter purchased a tract of land at the corner of Irving Park Boulevard and California avenue with frontage on the north branch of the Chicago river and here he established a brick manufactory plant with modern facilities. At this plant he installed, in the early '90s, his first steam plant and incidental accessories for this moulding of brick by purely mechanical means. The new process made it possible for him to increase the output of the plant to seventy-five thousand brick daily. In 1901 Mr. Lutter incorporated the Lake View Brick Company with his sons and Mr. Daniel Blaul and the charter provided for a capital stock of fifty thousand dollars. He became vice-president of the new corporation. At this juncture was effected the purchase of a tract of land directly opposite the original plant on Irving Park boulevard, this additional site being used for the amplification of the manufacturing plant and machinery of the largest type being here installed, so that the output capacity was two hundred thousand brick daily, a force of one hundred operatives being steadily employed. In 1913 the company acquired an adjoining twenty acres, and in the notable expansion of facilities modern machinery was added to the equipment of the plant.

In 1907 Mr. Lutter had organized another brick company and in the new venture his six sons became associated with him. The business was incorporated in that year under the title of the Lutter Brick Company and Mr. Lutter became its president, the capital stock being fifty thousand dollars. Henry Lutter, Jr., became vice-president; Alfred Lutter the treasurer; Elmer Lutter, secretary; and Adolph Lutter the superintendent and chief engineer. This company purchased fifty acres of land at Glenview, Illinois, a town about seventeen miles distant from Chicago, and on the line of the Chicago, Milwaukee & St. Paul Railroad. Here was equipped a brick manufacturing plant of the most modern type, and with a force of over one hundred employes, the company now has facilities for the production of two hundred and fifty thousand brick daily. In 1916 this company purchased an adjoining tract of seventeen acres and the plant as amplified by this provision is conceded to be of the best kind in the state of Illinois, its products being sold principally in Illinois and Wisconsin. The combined daily capacity of the two plants is one-half million brick. This Chicago company has no direct railroad facilities and depends principally upon the city itself for the sale of its products. Mr. Lutter is a man of indomitable energy and progressiveness and has achieved through his well directed endeavors a large measure of success, with secure vantage-place as one of the representative captains of industry in his home city. He is an active member of the Chicago Builders' and Traders' Association and he has been a member of the Columbia Bowling Club for fully thirty years, during which he has maintained a constant and lively interest in attractive sport of bowling, in which he is adept.

With high civic ideals, Mr. Lutter has taken a deep interest in public affairs, is a stalwart in the camp of the Democratic party and he served one term as representative of the twenty-sixth ward in the city council of Chicago, besides having held similar preferment in connection with the municipal government of the former city of Lake View where he maintains his residence at the present time.

February 17th, 1878, recorded the marriage of Mr. Lutter. Of his eight children the following brief data are available: Henry, Jr., is vice-president

of the Lutter Brick Company; Walter is treasurer of the Lake View Brick Company; Adolph is the general superintendent and chief engineer of the Lutter Brick Company; Frederick is secretary of the Lake View Brick Company; Alfred is treasurer of Lutter Brick Company; and Elmer secretary of Lutter Brick Company; Olga is the wife of Frederick Eilers, who is sales manager of Lutter Brick Company; Florence, the youngest daughter is still attending high school.

THE WHEELER VARNISH WORKS

The offices and factory of this representative Chicago industrial concern are situated at 2260-2274 Elston avenue, and in its physical makeup and applied facilities in all departments the plant is one of the best in its line to be found in the west. The business of this corporation has been established in Chicago since 1881, but its inception dates back to 1840, the original factory, of most modest order, having been located at Troy, New York, and its founder having

been Watts DeGoyler. This pioneer in the varnish industry recognized eventually the superior advantages of Chicago as a manufacturing and distributing center, and in 1881 he removed his business to this city and secured quarters at 371 East Illinois street, where he engaged in the manufacturing of varnishes, Japans and allied products, under the title of the DeGoyler Varnish Company.



WHEELER VARNISH WORKS

In this original factory were available about twelve thousand square feet of floor space, and under the active supervision of Mr. DeGoyler the enterprise was continued until 1904. He was well advanced in years and this fact militated against his productive activities and the consequent advancement of the business. The factory and business were in a run-down condition when, in 1904, the same were sold to William H. Noake and Edwin S. Wheeler, the former of whom became president of the company and the latter the secretary. At this juncture the business felt the infusion of new spirit and began to expand in scope, Mr. Noake having been a practical varnish manufacturer of broad experience and having continued as the active executive head of the business until his death, in 1911. Mr. Wheeler, whose firm and well ordered administrative policies had inured greatly to the process of the enterprise, then purchased the interests of his former and honored co-adjutor and effected a reorganization of the business, under the present corporate title of the Wheeler Varnish Works.

He became president of the corporation and his eldest son, Edwin G., became secretary and treasurer. Immediately following this reorganization Mr. Wheeler purchased the site of the present plant, with a frontage of one hundred and seventy-five feet on Elston avenue and with a depth of two hundred and fifty feet. Here he effected the erection of a thoroughly modern brick building especially designed and arranged for the business, and the plant is now a model in all equipments and facilities, with the most approved arrangements throughout for the manufacturing of the finest grades of varnishes, japans, oil stains, etc. The Wheeler Varnish Works have gained a wide and definitely reinforcing reputation in the manufacturing of the "Rock" architectural finishes, and the trademark is a recognized assurance of superior excellency in products. From a descriptive list issued by the company are taken the following pertinent extracts: "After more than half a century of practical experience in varnish making, we have originated and applied a principle whereby we have been enabled to obtain most valuable results in the finish and durability of our varnishes. By processes employed only by ourselves, we embody in our 'Rock' varnishes a maximum of toughness and elasticity combined with superior working and bodying qualities. The extremely elastic nature of the exterior 'Rock' finish accounts for its remarkable endurance, for varnishes made on the 'Rock' principle retain their elasticity, and are thus imbued with life and strength to resist the action of the elements." The same definite superiority is maintained in the "Rock" floor and linoleum finishes, japans, shellacs, enamels, oil stains and other products, and the continuous and substantial growth of the business offers the best specific voucher for the high estimate placed upon the varied products sent forth from the Wheeler Varnish Works, especially the "Rock" and the "Spar" finishes. As indicating the remarkable advancement of the business since 1904 it may be noted that in that year the sales aggregated eighty-three thousand dollars, while those for the fiscal year 1916 amounted to more than three hundred and sixteen thousand dollars. The company maintains warehouses in New York city, where its eastern office is at 16 Thirty-third street. A corps of nine efficient traveling representatives cover the concern's trade territory through the states of the east and the middle west. A specially large demand has been created for the piano and furniture polishes manufactured by this company, and since 1911 the force of employes has been increased threefold. The concern is represented in membership in the Chicago Association of Commerce and is contributing definitely to the commercial and industrial precedence of the western metropolis.

EDWIN S. WHEELER

Edwin Stewart Wheeler, president of the Wheeler Varnish Works, was born at Oregon, Ogle county, Illinois, on the 5th of April, 1858, and is a son of Edwin R. and Harriet P. (Stewart) Wheeler. His prestige as a manufacturer has been gained by his subordinating the profession for which he prepared himself and in which he achieved success, for in 1879 he was graduated in the law department of Northwestern University, with the degree of Bachelor of Laws. For the ensuing year he was associated with one of the representative law firms of Chicago, and



E. S. WHEELER

he then established his residence at Mason City, Iowa where he continued in the successful practice of his profession for several years, as did he later at Nora Springs, Floyd county, that state, besides having been simultaneously a member of the banking firm of Shepardson & Wheeler. In 1885 Mr. Wheeler retired from the work of his profession to accept the position of western representative and general agent for the Newark Fire Insurance Company, of Newark, New Jersey. As special agent and adjuster he had charge of the entire business of this company in eight states, and in 1888 he established his residence and business headquarters in Chicago. He continued his effective services with this representative insurance corporation until the 1st of July, 1904, when he became associated with William H. Noake and R. W. Clough in the purchase of the plant and business of the DeGolyer varnish works. At this time the title of Noake-Wheeler-Clough Company was adopted, and later the same was changed to the Wheeler-Clough Company, which was retained until the adoption of the present title, the Wheeler Varnish Works.

In politics Mr. Wheeler is a staunch and effective advocate of the principles of the Republican party and while engaged in the practice of law in Iowa he was active in political affairs. Mr. Wheeler became adjutant in the Seventh Infantry Regiment of the Iowa National Guard, and he resigned this position upon his removal to Chicago, where he identified himself with the First Regiment of the Illinois National Guard, in which he continued his membership three years and is now a member of the Veteran Corps. In the Masonic fraternity Mr. Wheeler is affiliated with Oak Park Lodge, No. 540, Ancient Free & Accepted Masons, and his maximum York Rite affiliation is with Siloam Commandery, No. 54, Knights Templars. He is identified also with Oriental Consistory of the Ancient Accepted Scottish Rite and with Medinah Temple of the Mystic Shrine. He is a life member of the Illinois Athletic Association, is affiliated with the Benevolent & Protective Order of Elks, and holds membership in the Rotary Club of Chicago, the Pistakee Country Club and the Min-Dako-Wis Tribe, composed of devotees of outdoor sports, from the states of Minnesota, the Dakotas and Wisconsin, as the title implies. He finds his chief recreation in hunting and fishing. The family home is at 200 South Grove street, Oak Park.

On the 29th of September, 1879, was solemnized the marriage of Mr. Wheeler to Miss Chloe Irene Gaylord, of Nora Springs, Iowa, and they have three sons,—Edwin Gaylord, Wilberforce Richard, and Henry Duncan.

THE ILG ELECTRIC VENTILATING COMPANY

This admirable Chicago corporation has the distinction of being the largest concern in the United States giving exclusive attention to the manufacturing of ventilating apparatus, and the methods and policies involved in the prosecution of the business are of the most approved order, making for the maximum of success and for efficiency of service in every department. There is full measure of consistency in the following statements from one of the catalogues issued by the company: "Our plant is operated under a comprehensive system of profit-

sharing with employes, and our product is the result of the best conscientious efforts of skilled mechanics." The output of the large and well ordered manufactory includes self-cooled, direct-connected electric motor propeller fans; automatic shutters or louvers, for the protection of fans and duct openings; universal centrifugal blowers, direct connected to self-cooled electric motors, as well as for belt drive; self-cooled electric motors for all commercial circuits; and general ventilating specialties. Particular features of the products have been thus designated: "Designed so as to use a minimum of parts; substantial and strong where strength is needed; unnecessary weight eliminated; all parts interchangeable; highest economy in power consumption."

The general offices and works of the Ilg Electric Ventilating Company are situated at Whiting and Wells streets, Chicago, and branches are maintained in the cities of New York, Cleveland, Philadelphia, Pittsburgh, St. Louis, Detroit, Boston and Cincinnati, with Canadian offices at Galt, Ontario. The Ilg self-cooled motor propeller fan, invented and perfected by Robert A. Ilg, founder of the company, is protected by basic patents in both the United States and Canada, and the same conditions maintain also in connection with his volume and pressure blowers and exhausters, recognized as the most perfect devices of the kind extant. Catalogues and other incidental literature issued by the company give adequate description of the various products, and in this article it is unnecessary to touch such details. The definite superiority of the Ilg fans and blowers would alone have proved adequate to insure in their manufacture the development of a successful industrial enterprise, but, farther than this, there have been devised and utilized the most progressive policies and systems of efficiency in the handling of the business, so that the success element has been splendidly reinforced. The fair and generous system of co-operation that has been adopted in connection with the employes of the company has proved most potent in the establishing of close and sympathetic relations and insuring to employes financial returns in consonance with the consecutive advancement of the business controlled by the company. The wise profit-sharing plan that has been placed in commission has inured greatly to the basic efficiency of operations, and the company has otherwise made the best of modern provisions for the health and comfort of employes, including the installation of shower baths and a swimming pool.

This noteworthy industrial enterprise was founded in 1904, by Robert A. Ilg, who engaged, in a small way, the manufacturing of his inventions, though it was not until 1906 that he received letters patent on his electric fans and blowers. His original headquarters, at 20 West Kinzie street, utilized only four hundred square feet of floor space, and during the first two years his corps of assistant's averaged about ten employes. In 1906 the business was incorporated, with Samuel W. Weis as president and Mr. Ilg as secretary and treasurer, Mr. Weis being still president of the company but being not active in the directing of its executive affairs. Since 1910 John M. Frank has been vice-president of the corporation, and in that year the well established business was removed to its present eligible location, at Whiting and Wells streets. Prior to the incorporation the annual business amounted to an average of three thousand dollars, and by 1910 the sales had attained to an annual average of fifty-two thousand dollars.

In the removal to the new location the force of employees was increased to about forty and there was a supplied requisition for eighteen thousand square feet of floor space. In 1915 was erected an addition to the plant, and early in the year 1917 an insistent requirement for more space led to the completion of still another addition, with the result that the company now has available and in full use an aggregate floor space of fifty thousand square feet, while constant employment is given to a corps of one hundred and ten persons, including a large contingent of skilled artisans. The products of this finely equipped factory are now sold in all sections of the United States and Canada, and even prior to the great war a substantial export trade had been developed in European countries. The substantial industrial enterprise is based on the admirable patents of the company's secretary and treasurer, who is a man of exceptional mechanical and inventive talent and who has shown also remarkable initiative and executive ability in connection with the upbuilding of the business. The Ilg Electric Ventilating Company has membership representation in the Chicago Association of Commerce and the Illinois Manufacturers' Association.

SAMUEL W. WEIS

Samuel W. Weis has been president of the company since its incorporation in 1906.

He is a native of Natchez, Miss., but has made his home in New Orleans, La. for many years. He received his schooling in the Public Schools of New Orleans, La., Phillips Exeter Academy, Exeter, New Hampshire, and Massachusetts Institute of Technology of Boston.

Mr. Weis is not actively connected with the conduct of the business, but lends his hand in a advisory capacity. In New Orleans he is a member of the firm of J. Weis & Company, one of the largest and most successful banking and cotton companies in the South. Mr. Weis is very prominent in civic affairs in New Orleans, being one of the directors of the Art Museum and is connected with many Charities in an executive way. He was recently appointed member of the State Board of Defense for the State of Louisiana.

JOHN M. FRANK

John M. Frank, the vice-president since 1910, is a recognized expert in the field of applied electricity, especially in electrical machinery and prior to identifying himself with the company of which he is now vice-president he has been for three years in the service of the Chicago Edison Company. He has proved in both a technical and administrative way a most able coadjutor of Mr. Ilg and has done most to further the success of the company. Mr. Frank is a native of the city of Natchez, Mississippi, and is a graduate of the celebrated Massachusetts Institute of Technology, in the city of Boston.

ROBERT A. ILG

The progressive secretary and treasurer of the above mentioned company, which bears his name, was born in Paris, France. Later the family removed to Germany, where Robert A. continued to attend the excellent national schools until he was about eleven years of age. In 1890 came to the United States and established a home in the city of San Francisco, California. There the subject of this review attended the public schools about two years, and at the age of fourteen years he there entered upon an apprenticeship to the trade of electrician with the Pacific Power Company. He applied himself with diligence and ambition and gained a broad and thorough knowledge of electricity as applied in a practical way. He continued to be steadily employed at his trade in San Francisco until 1899, when, at the age of twenty years, he came to Chicago and entered the employ of the Western Electric Company, with which he continued his service nine months. He then became associated with the Chicago Edison Company, and he continued in charge of one of its sub-stations for the ensuing four years, at the expiration of which he founded in a modest way the business with which he has since been identified and which has grown under his direction to be one of the important industrial enterprises of the western metropolis. He has been secretary and treasurer of the Ilg Electric Ventilating Company from the time of its incorporation.

THE HARTMAN INGOT METAL COMPANY

The laboratories and general manufacturing departments of this company, at 2511-15 West Twenty-first street, are specially notable for the completeness and industrial consistency of their modern equipment, and in its functions pertinent to the smelting and refining of metals, the company holds a position of distinct prestige in connection with the metal trades in Chicago. The business was founded in 1910, by John Hartman, Fredrick Findeisen and Oscar F. Kropf, and upon the incorporation of the company, in the same year, Mr. Findeisen became its president, Mr. Hartman, its vice-president and general manager, and Mr. Kopf is secretary and treasurer. The charter of the new company prescribed its function as the manufacturing of ingot metals and the handling of a general metal smelting and refining business, with incidental dealing in metals. The new company began operations at its present location, where a floor space ninety-three by fifty feet in dimensions was placed in requisition, the crucibles installed at the start being six in number and the average number of employes for the first year being fifteen. In the initial stages the company turned out an average of six thousand pounds of ingot metal daily, and this product was utilized entirely by local manufacturers of plumbing brass goods and by the carburetor companies. A new and improved process was utilized by the company and in the beginning it was necessary to show by results the superiority of product that should effectually disarm prejudice and skepticism. The company was the pioneer in devising a satisfactory compound for the perfecting of this special process, and the intervening years have justified most fully the methods thus employed, this being adequately attested by the large volume of business now controlled and the repre-

sentative character of the company's clientage. In 1912 the equipment of the plant was greatly expanded, with consequent increase of productive capacity, and in 1914 was made an addition to the original plant, by the erection of an adjunct building fifty by one hundred and ten feet in dimensions. The plant now has a fine equipment of thirty-six furnaces, with all accessories and facilities of the most modern type, and the average annual output now amounts to fully fifteen million pounds of ingot metal, besides which the general smelting and refining departments likewise are running to full capacity of output.

The development of the prosperous enterprise of this corporation has been largely due to the technical skill and progressive policies of its vice-president and general manager, Mr. Hartman, who has made practical demonstration of the fact that his formula in the production of brass castings from ingots has made possible the securing of the best results in ultimate machining, the same being susceptible to the most delicate tooling and the process being far superior to that of formulas previously used. All products bear the trademark H. I. M., representing the initial letters of the company's title, and the output includes brass and refined pure-aluminum products. In the establishment is given employment to an average force of seventy-five men, and the recognized superiority of the products of the plant is indicated in the fact that many manufacturers of plumbing goods state in their advertising matter that they use H. I. M. products. The company has membership in the Chicago Brass Manufacturers Association.

JOHN HARTMAN

John Hartman, vice-president and general manager of the Hartman Ingot Metal Company and the virtual founder of the business of this concern, was born in Prague, Bohemia, on the 14th of February, 1865, and in the following year his parents immigrated to America and established their home in the city of Cleveland, Ohio. In the Ohio metropolis Mr. Hartman acquired his early education in the public schools and as a youth he followed the printer's trade for a time. At the age of twenty-seven he initiated his practical apprenticeship in connection with the metal trade, in the establishment of Eiseman Brothers, of St. Louis, Missouri. With this concern he continued his services until 1897, when he entered the employ of the Michigan Smelting & Refining Company, in the city of Detroit. While thus engaged Mr. Hartman had given much time to study, research and experimentation and finally he discovered the principal on which is based the process that has proved so effective and practical in the development and upbuilding of the business of the company which bears his name, as designated in the preceding article. In the beginning the brass manufacturers manifested a distinct prejudice against the ingot brass produced by the Hartman process, but this prejudice has entirely disappeared under the inviolable proofs of superiority that have been given in a practical way, all leading brass manufacturers today giving preference to the ingot metal. Mr. Hartman has been an enthusiast in his chosen field of industrial enterprise and is a vigorous and progressive business man who commands unqualified esteem. He is a member of the American Institute of Metal, and is affiliated with the Masonic Bodies

and Knights of Pythias. October 1st, 1917, Mr. Hartman purchased the interest of Messrs. Findeisen and Kropf and the present officers are John Hartman, president and treasurer; A. Hartman, vice-president; Francis B. Leonard, secretary.

FRANCIS B. LEONARD

Francis B. Leonard, who is secretary of the Hartman Ingot Metal Company, was born in Chicago on the 28th of May, 1891, and his early educational advantages were those of the public schools, after leaving which he completed an effective course in a local business college. He has been associated with the Hartman Ingot Metal Company since 1910 and has proved a capable and valuable assistant to Mr. Hartman and is one of the vital young business men of his native city.

INTERNATIONAL ROOFING MANUFACTURING COMPANY

The factory and main offices of this corporation are established at 5301-13 South Western avenue, and sales rooms in which are displayed products of the manufacturing plant are maintained in the Insurance Exchange building, 175 West Jackson boulevard.

The International Roofing Manufacturing Company was incorporated under the laws of Illinois in 1914, and the productive functions of the new corporation were assigned as the manufacturing of roofing materials, including prepared shingles. Initial operations were based on a capital stock of fifty thousand dollars and the original executive corps of the company was as follows: Henry Hogans, president; H. W. Austin, secretary and treasurer. On the site of the present manufacturing plant the company first erected a building sixty-six by two hundred and sixty-six feet in dimensions, and this structure, properly equipped, sufficed for the uses of the concern until the business had so expanded as to render imperative the enlargement of the accommodations. In the early part of 1917, therefore, an addition was made to the original building, the new structure being sixty-six by two hundred feet in dimensions and a second story providing an office sixty-six by twenty feet in dimensions. At this time also was erected a building for the boiler room and for the cement and still room, thus giving an additional floor space of about five thousand square feet. The output of the factory for the first year comprised about one hundred and seventy thousand rolls of roofing, and the number of employes retained to manufacture this product was about twenty-eight on an average. Upon the completion of the new addition to the plant the company installed a proper equipment of new machinery, and this entailed the increasing of the corps of operatives to forty-five men. The average annual output of the enlarged factory is placed at about six hundred thousand rolls of the improved roofing which forms the basis of the thriving industrial enterprise, but the plant has a capacity for a much larger output. In 1916 the capital stock of the company was increased to one hundred and twenty-five thousand dollars and E. J. Weaver became a stockholder and the vice-presi-

dent of the corporation. At the annual meeting of the stockholders in January, 1917, the election of officers gave the following result: Henry Hogans, president; H. W. Austin, secretary and treasurer; and E. J. Weaver, vice-president.

This vigorous and progressive corporation has won marked precedence in its field of enterprise and among the leading products of the well equipped plant may be noted the International rubber roofing, sanded roofing, "Tuf-Skin" and "Silver King" brands of Roofing and "Red Crown" and "Red Master" brands of Shingles. So aggressive have been the policies of the company that its trade has been extended widely throughout the United States and Canada, the while a successful export business has been established in Norway, China and Porto Rico. Extraordinary market conditions incidental to the great European war have tended significantly to promote the development of the business of this progressive Chicago corporation. The manufactory has the best of transportation facilities, with a fifteen-car private switch track connecting with the Baltimore & Ohio, the Chicago Terminal and the Panhandle Railroads.

HENRY HOGANS

Henry Hogans, president of the company described in the foregoing paragraphs, was born in Norway, 1859, and in his native land he received excellent educational advantages. In 1882, when about twenty-three years of age, he came to the United States and made Chicago his destination. For a time he found employment as a mechanic, as he believed that by such means he could best gain a knowledge of the English language, and he applied himself diligently both to work and study, with the result that he soon came into effective touch with American customs and business policies. In 1886 he engaged independently in the contracting and building business, and with this line of enterprise he continued his active association until 1914, when he became one of the organizers and incorporators of the International Roofing Manufacturing Company, of which he has continued the executive head to the present time.

E. J. WEAVER

E. J. Weaver, vice-president of the International Roofing Manufacturing Company, was born in New Jersey, in 1870, and in his native city he received his youthful education and initial business experience. Prior to coming to the west he had been in the employ of a number of representative business concerns in Newark and New York city, and in 1905 he established his residence in Chicago, where he was made western manager for the Stowell Roofing Manufacturing Company, of Newark, New Jersey. In 1908 he accepted the position of special representative and sales manager for the Patent Vulcanite Roofing Company, and this alliance was continued until he severed the same to identify himself with the company of which he is now vice-president, as duly noted in the preceding article descriptive of the corporation.

Mr. Weaver is a member of the United Commercial Travelers Association, and of the Chicago branch of the World's Salesmanship Congress, an international organization. He is secretary and treasurer, in 1917, of the National Association of Prepared Roofing & Shingle Manufacturers.

HENRY W. AUSTIN

Henry W. Austin, secretary and treasurer of the International Roofing Manufacturing Company, has other large and important capitalistic interests and is one of the influential business men of Chicago. He was born in the Chicago suburb of Oak Park, on the 22d of January, 1864, a son of Henry Warren Austin and Martha Sophia (Voorhees) Austin, who were numbered among the pioneer settlers of that now beautiful suburban city. In 1888 Mr. Austin was graduated in Williams College, with the degree of Bachelor of Arts. Before entering the university he had been employed as a clerk in the hardware establishment of H. W. Austin & Company, of which his father was the executive head. After the death of his father, in 1889 Mr. Austin assumed the management of the latter's extensive real-estate interests. He was one of the organizers of what is now the Oak Park Trust & Savings Bank, of which he is president; he is vice-president and treasurer of the Mackie-Lovejoy Manufacturing Company; is secretary of the Niles Manufacturing Company; and has large and valuable real-estate holdings.

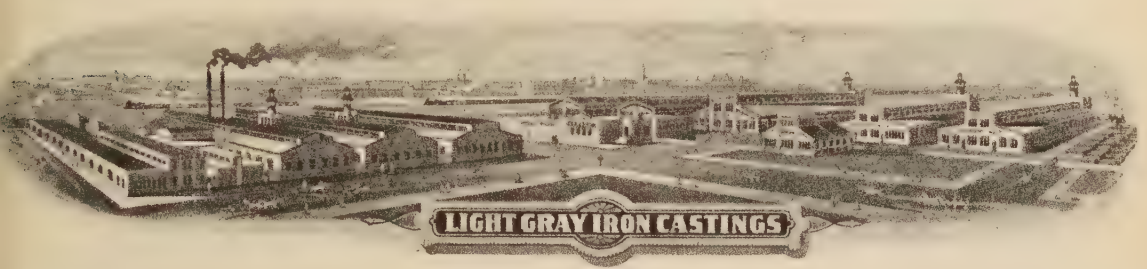
Mr. Austin has been influential as a representative of the republican party and represented the Twenty-third senatorial district in the Illinois state senate for three successive terms. He has served as school trustee, was elected the first treasurer of his native village of Oak Park and held this office for several years. Mr. Austin and his wife hold membership in the Congregational church of Oak Park and he is an active member of the Oak Park Club, of which he was treasurer for six terms. In Chicago he is a member of the City Club and the Hamilton Club, as well as the Alumni Association of Williams College, an organization of which he has served as president. He is affiliated with the Alpha Delta Phi college fraternity.

WESTERN FOUNDRY COMPANY

The extensive and admirably equipped plant of this company is situated at 3634 South Kedzie avenue, and in the manufacturing of light gray iron castings the company has developed a large and far-reaching industrial enterprise, based, as the advertising of the corporation invariably states with emphasis, upon quality, service, capacity and price. Descriptive brochures issued by the corporation gave ample information to the trade, but brief quotations may consistently be made from the same: "Western Castings reduce factory costs, because they are true to pattern and have a smooth, clean surface, free from defects, thereby eliminating any unnecessary grinding and fitting in assembling. By using Western Castings machine labor is reduced to a minimum, as the iron is soft and strong and can be easily and economically machined and drilled. We

make chemical tests of our iron daily, insuring our customers of a uniform product at all times. We are always able to give our customers prompt and efficient service and make deliveries of sufficient castings to take care adequately of their requirements. 'Western service' is made possible owing to the large capacity of our plant, which consists of seven large foundries of the most modern type, especially equipped for making light castings in quantities. In connection with our plant we have a fireproof pattern vault, insuring the safe storage of patterns; also a first-class pattern shop enables us to make pattern changes quickly, and new patterns when necessary."

This is the largest plant in the United States devoted to the manufacturing of light castings and the unexcelled facilities and volume of business enable the company to make on its products the lowest prices consistent with good work. The enormous industrial institution directs its business solely with manufacturers demanding light castings of the highest grade, and the annual output has now reached the large average of twenty-five thousand tons, the while operations



WESTERN FOUNDRY COMPANY

are based on a capital stock of six hundred thousand dollars. The business was founded in the year 1892, when, under the present title, the company was incorporated. The original plant utilized about two acres of ground, on the site of the present extensive establishment, and the original officers of the company were Dennis F. O'Neil, who was president; and Nicholas F. Purcell, who was secretary and treasurer. In the small foundry that the new company equipped at this time was instituted the manufacturing of light iron castings, and during the intervening years the enterprise has been consistently and effectively confined to this one phase of foundry work. The output for the first year was about twenty-five hundred tons, in the production of which about thirty employes were retained. Efficiency of service brought about a rapid and substantial expansion of the business, and this continuous growth has entailed the enlargement of the plant from time to time until it is now the largest one in the Union devoted exclusively to the manufacturing of light iron castings. The great institution now utilizes twenty acres of land, with about twenty buildings and seven distinct foundries. The force of employes is now twelve hundred in number, and the wide scope and importance of the enterprise are indicated in the brief data here presented. The finely appointed general offices of the Western Foundry Company are maintained in direct connection with the plant, and with address at 3634 South Kedzie avenue. The present officers of this staunch and progressive corporation are as follows: John P. O'Neil, president; John P. Whelan, treas-

urer; Albert J. Wicker, Jr., sales manager; John A. Schroeter, secretary; Harry T. Odenkirk, superintendent; and Charles J. Cullinan, assistant superintendent.

JOHN P. O'NEIL

The president of the representative industrial corporation described in foregoing paragraphs was born in the city of Cleveland, Ohio, on the 8th of March, 1873, and there he acquired his early educational discipline in the public schools. After his school days he initiated his association with the practical affairs of life by entering the employ of the Standard Foundry Company, of Cleveland. Here he learned the varied technical and executive details of the foundry business in a most thorough way, and he continued his alliance with this Cleveland concern until 1892, when he came to Chicago and became foreman of the plant of the Western Foundry Company, of which he was later made superintendent, his ability and effective service having proved potent in furthering the success of the business. In 1910 he became president of the company, as successor of his older brother, Dennis F., who had been one of the founders of the company and who had been continuously its president until his death, in the year that marked the succession of John P. O'Neil to the presidency thereof. Strong initiative and executive ability has been shown by the present administrative head of this large industrial institution, and his progressive policies have inured materially to the continuous growth of the business. The company has membership representation in the Illinois Manufacturers' Association, the National Association of Manufacturers, the National Founders' Association, and the Chicago Association of Commerce. Mr. O'Neil has always applied himself closely to business and save for his appreciative indulgence in golf and automobile diversion he finds aside from business his prime interests centered in his home, his residence being at 5120 Kenwood avenue.

In 1895 was solemnized the marriage of Mr. O'Neil to Miss Lucille Richardson, of Chicago, and they have four children,—Howard J., Helen F., Anna T. and Marion L.

H. M. HOOKER GLASS AND PAINT COMPANY

One of the oldest and largest glass and paint houses of Chicago is that of the H. M. Hooker Glass and Paint Company, the history of which covers a period of more than sixty years and the development of which has kept pace with the marvelous progress of the western metropolis during the long intervening years.

This now large and prosperous industrial and commercial enterprise had a very modest inception, when, in 1855, Fayette and Henry M. Hooker, ambitious young men who had recently come from the east to the future metropolis at the foot of Lake Michigan, established a drug store at 56 West Randolph street, near Clinton street. The two brothers adopted the firm title of F. & H. M. Hooker, and in the pioneer drug store the firm carried also a small stock of paints and oils. This latter branch of the enterprise expanded more rapidly than did the

business of the regular drug department, and after a few years the firm increased its quarters by renting an adjoining store, at No. 58, this being fitted up for the accommodation of the paint department, in which was installed an appreciably larger stock of paints and oils, as well as a stock of window glass. About the opening of the year 1868 the drug business was sold to W. D. Broomhead, and the paint and glass business was further extended by the establishing of a downtown store, at 127 South Water street. At this juncture John F. Weare was admitted to partnership in the business and the title of the firm was changed to Hooker & Company. Fayette Hooker, the elder of the two brothers, died in September, 1868, and thereafter the business was continued under the title of Hooker & Weare until 1871, when the partnership was dissolved, Mr. Weare retaining the South Side business and Mr. Hooker continuing in an individual way the business established at the original West Side location. In March, 1869, however, this original location had been abandoned for more ample quarters in a larger and better lighted store on the opposite side of Randolph street, at the corner of Clinton street. From this time the growth of the business was rapid and substantial, especially after the great Chicago fire, in 1871, and within a short time after the city had thus been laid prostrate Mr. Hooker, whose store had escaped the conflagration, acquired also the store next to the east of that already occupied. At the rear of this second store he erected an extension, besides making other provisions better to accommodate the constantly growing business. Early in 1884 Mr. Hooker purchased the property at 18, 20 and 22 North Clinton street, the same having a frontage of about sixty feet on that street and a depth of one hundred and fifty feet, and a few years later he acquired also the intervening property, at 12, 14 and 16 North Clinton street, so that was thus gained a continuous frontage of two hundred and seventeen feet on Clinton street. This property was improved by Mr. Hooker with a substantial four-story building for warehouse and manufacturing purposes, the office and salesrooms being continued in the corner building, fronting on West Randolph street. In these quarters the business was continued until the site was acquired by the Chicago & Northwestern Railway Company, incidental to the erection of the present fine passenger station. Under these conditions the business was removed to the present location, at 651-59 West Washington boulevard, where was erected for its accommodation a first-class fireproof industrial building of six stories and basement and one hundred and sixteen by one hundred and eighty-five feet in lateral dimensions,—probably the finest and best equipped building used for the Glass and Paint business in the entire United States.

In 1888, under the provisions of the Illinois laws, the business was incorporated under the title of H. M. Hooker Company, the honored founder having at this time permitted some of his trusted employes to acquire an interest in the business, through purchase of stock in the new corporation. Mr. Hooker became president of the company; Frank Hayes, who came with the house in 1865, was made vice-president and general manager; and John N. Dole, whose association with the enterprise began in 1869, assumed the dual office of secretary and treasurer. After the death of Mr. Hayes, in 1906, John N. Dole was elected his successor in the office of vice-president and general manager and Arthur Dole succeeded to the position of secretary and treasurer, his alliance with the business having had inception in 1878. Andrew R. Dole, who had been with the

concern since 1879, was made manager of the glass department, and Robert V. Thomas, whose identification with the business began in 1883, was assigned to the management of the paint department. Mr. Hooker continued as president of the company until January, 1907, when he retired from active business, though still retaining a large interest in the enterprise that had been built up under his broad-gauged and progressive administration, he having also become financially interested in the Chicago White Lead & Oil Company. In the presidency of the company which perpetuates his name Mr. Hooker was succeeded by George M. Vial, who became identified with the business in 1868 and whose alliance therewith was continuous, save for an interim of twelve years, until 1895, when he became secretary and manager of the Chicago White Lead & Oil Company, in which, as before noted, Mr. Hooker was an interested principal.

Mr. Vial died in 1915, and in the ensuing readjustment of the executive corps John N. Dole was made president of the company; Andrew R. Dole, vice-president; Arthur Dole, secretary and treasurer; and Robert V. Thomas, assistant secretary and treasurer.

In connection with its other lines the company does an extensive business in the handling of art glass of the highest grade, and this department of the enterprise is entrusted entirely to the management of George H. Bradshaw, who is thoroughly skilled in this line and an authority in its every detail, his association with the company in his present capacity having begun in 1889.

In the experience of the H. M. Hooker Company there has been adopted a list of specially prepared products that are generally recognized by the trade throughout the country and that apparently can not be secured through the medium of other concerns,—notably such products as the Hooker picture glass, framed mirrors, the Hooker memorial art-glass windows, the Gibraltar floor varnish, largely used throughout the United States and Canada, and the Hooker quality house paints. The business through the central states is obtained principally through the medium of a corps of efficient traveling salesmen, and elsewhere the trade is drawn principally through mail orders. The company employs under normal conditions fully three hundred men and the annual output is placed at a valuation in excess of two million dollars—representing virtually the limit of capacity with the present equipment. In January, 1918, the corporate name of H. M. Hooker Glass and Paint Company was adopted so as to quickly identify the character of the business with the name of the company. In following paragraphs is a brief mention of the founder of the business and of the present executive officers of the company, as well as of Mr. Hayes and Mr. Vial.

HENRY M. HOOKER

Henry M. Hooker was born at Enfield, Massachusetts, March 2, 1829, and in his native state he obtained his youthful education. After leaving school he held a clerkship in a general store at Amherst, Massachusetts, and later he was for a short time engaged independently in the retail clothing business at Ansonia, Connecticut. In 1855, as a young man of twenty-six years, he came to Chicago, and the foregoing article sufficiently indicates the strength, vigor and sterling



First location, 1855-1869



1869-1907



New Building, 1907-1918

H. M. HOOKER GLASS & PAINT CO.

qualities that brought him to prominence and influence as one of the representative business men and influential citizens of the community which he saw develop from an insignificant city into one of the great metropolitan centers of the world. He did well his part in furthering the industrial and commercial progress of Chicago, commanded the unqualified respect of all with whom he came in contact and at the time of his retirement was one of the honored pioneer business men of the city. Mr. Hooker died April 16, 1914.

FRANK HAYES

Frank Hayes was born in Limerick, Maine, inheriting from a long line of ancestry, those sterling qualities of character and manhood typical of our Colonial period and which were ever manifest during his career. The son of a prosperous farmer, he grew to manhood amidst such surroundings as were common to the youth of the place and period. In 1865, he came to Chicago and at once associated himself with Mr. Hooker and upon the reorganization of the business under the corporate name of the H. M. Hooker Company, he became vice-president and general manager, continuing as such until his death, contributing largely towards the upbuilding of the business.

GEORGE M. VIAL

George M. Vial was born in Lyons township, Cook county, Illinois, February 15, 1850, a son of Samuel Vial, who was one of the sterling pioneers of the county. In January, 1907, he was elected president of the H. M. Hooker Company, and of this office he continued the incumbent until his death. He maintained his residence in the attractive suburb of LaGrange, where he served five years as president of the board of education and several years as a director of the LaGrange public library. He was identified with the LaGrange Country Club, the Chicago Congregational Club, the Union League Club and the Chicago Association of Commerce, his religious faith having been that of the Congregational church.

JOHN N. DOLE

John N. Dole was born at Limerick, York county, Maine, where he received the advantages of the public schools and also those of Limerick Academy. In 1869, Mr. Dole came to Chicago, and immediately entered the employ of Hooker & Weare. He became a resourceful factor in the development of the large and important industrial enterprise of which he is now the executive head and has been an officer of the H. M. Hooker Company from the time of its incorporation. In 1888 he was made secretary and treasurer, in 1906 he became vice-president and general manager of the company, and in 1915, upon the death of Mr. Vial,

he succeeded the latter in the office of president. He is president also of the Chicago White Lead & Oil Company and through his own ability and endeavors has gained secure vantage-ground as one of the representative business men of the city in which he has maintained his home for nearly half a century. Mr. Dole is a life member of the Chicago Art Institute and holds membership in the Union League Club, the Evanston Club, the Evanston Country Club and the Indian Hill Golf Club.

ANDREW R. DOLE

Andrew R. Dole was born and reared at Limerick, Maine, and in 1879 he joined his elder brother in Chicago, where his association with the H. M. Hooker Company has continued without interruption during the intervening years. As noted in a foregoing article, he has been vice-president of the company since 1915, and he is likewise a member of the directorate of the Chicago White Lead & Oil Company.

ARTHUR DOLE

Arthur Dole was born and reared at Limerick, Maine, where he received good educational advantages. He was made secretary and treasurer of the H. M. Hooker Company in 1906, and of this dual executive office he has continued the efficient incumbent to the present time. He is a director of the Chicago White Lead & Oil Company and holds membership in the Kenwood Club and the Calumet Golf Club.

ROBERT V. THOMAS

Robert V. Thomas was born in Chicago in 1868, received his early education in the public schools of his native city and has been (1917) connected with the H. M. Hooker Company for thirty-five years. He is vice-president of the Chicago White Lead & Oil Company, is affiliated with the Masonic fraternity, holds membership in the LaGrange Country Club, and in 1917 is a member of the board of education of LaGrange besides being vice-president of the Congregational Club of Chicago.

THE FUEL OIL COMPANY

Under the administration of Frank P. Whitefield, in the capacity of general sales manager, is conducted the extensive business controlled by this corporation from the Chicago offices, in the Railway Exchange Building. The company is one of the largest and most important in the United States in its field of operations, the distributing of fuel oils and also oils for use on roads and streets for preservative purposes and the elimination of dust. The company is incorporated



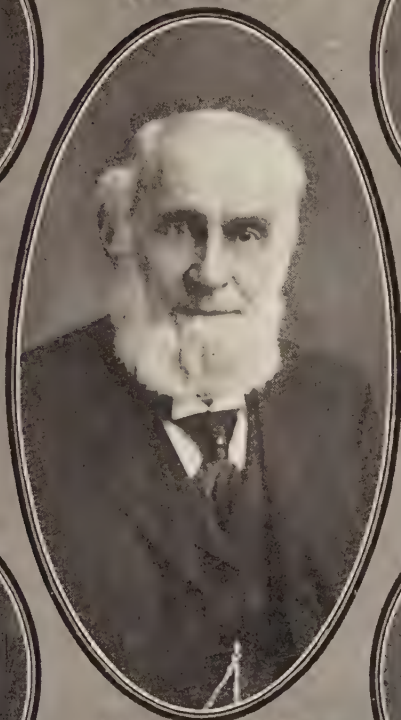
J.N. DOLE



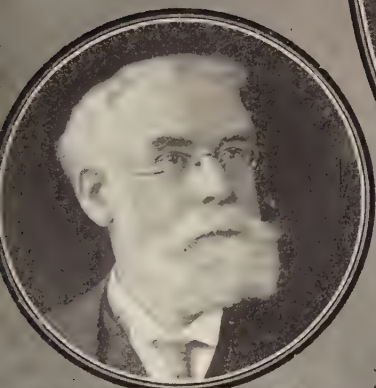
A.R. DOLE



R.V. THOMAS



H.M. HOOKER



GEORGE M. VIAL



ARTHUR DOLE



FRANK HAYES

under the laws of the state of Missouri and its general offices are established in the city of St. Louis. The recognition of Chicago's supremacy as a distributing center is shown by the company's maintaining in this city its general sales offices, and the corporation thus contributes its quota to the commercial precedence of the western metropolis.

The Fuel Oil Company markets the entire output of fuel and road oils from several of the largest independent oil refineries of the country, and it supplies large consumers of these products in all of the important industrial centers of the Union. In connection with the gigantic manufacturing industries of Chicago it is probable that this company supplies a greater number of fuel-oil consumers than does any other engaged in the same line of enterprise.

FRANK P. WHITFIELD

Frank P. Whitfield, the energetic and progressive general sales manager for the Fuel Oil Company, has been identified with the oil industry since the time when he left school to take up the practical duties of life, and he has become a recognized authority in all that pertains to the quality and use of fuel oils. In his official capacity he is prepared to give to prospective consumers of fuel oils unprejudiced and effective engineering service in defining the most effective policies for furnace equipment for all kinds of industrial institutions, and he is a young man whose initiative and executive ability and technical knowledge especially fortify him for the position of which he is now the incumbent.

Mr. Whitfield was born in Chicago, on the 1st of May, 1883, a son of Thomas Whitfield. After his graduation in the J. Sterling Morton high school he entered the University of Illinois. After leaving school he entered the employ of the Standard Oil Company, and with this great corporation he continued his association 7 years, within which he gained valuable experience both along technical and commercial lines. He finally resigned his position with the Standard Oil Company to accept a responsible post with the wholesale department of the Texas Oil Company. With the Chicago offices of this corporation he continued his identification until the 1st of March, 1915, when he resigned to accept the position of treasurer and general manager of the Kansas Cooperative Refining Company, Chanute, Kansas, which he resigned to accept present position. Mr. Whitfield was one of the organizers and is a popular and influential member of the Chicago Petroleum Club and is actively identified also with Western Oil Jobbers' Association and the Independent Oil Men's Association, with secure standing in connection with the important field of industrial and commercial enterprise in which he has directed his efforts during the entire course of his business career.

INLAND PETROLEUM COMPANY

In the handling of petroleum products this company has a well fortified status and is one of the substantial exponents of this line of industrial and commercial

enterprise with general sales and executive offices in Chicago. The company was organized in March, 1917, by W. S. White, who is president and treasurer of the same, and it is incorporated under the laws of Illinois, with a capital stock of ten thousand dollars, J. K. Fahin, being secretary of the company. The handsomely appointed offices are maintained on the fourteenth floor of the McCormick Building, on Michigan boulevard, and as distributors of petroleum products the company does an exclusive wholesale and jobbing business in which it handles the same in tank-car lots. Through direct facilities the corporation is thus concerned the refining and marketing of kerosene; gasoline; naptha; distillates; road, fuel and gas oils; greases; filtered viscous and non-viscous neutral oils; gravity-gas and gravity-fuel oils, etc.. The crude and refined products are obtained by the company principally from the oil fields of Kentucky and Oklahoma, and the business extends not only through the territory normally tributary to Chicago as a distributing center but also into the most diverse sections of the United States and Canada. Mr. White, the president and treasurer of this progressive and well ordered company, is very well and favorably known to oil producers and oil consumers from coast to coast, and he has not had an idle moment since he became identified with the oil business as a boy,—thirty-two years ago. His father was for many years the president of the White Golden Lubricator Company, of Cincinnati, Ohio,—a company that was organized in 1863 and which gained status as one of the most successful oil concerns in the country, a prestige which it maintained until its business was purchased by the Standard Oil Company, in 1889.

In 1885 W. S. White became associated with his father's oil business and when, four years later, the same was absorbed by the Standard Oil Company he continued in the service of the latter corporation. He became sales manager for the company for the territory of southern Ohio, with offices in Cincinnati, and he retained this position until 1904, when he resigned his office to assist in the organization of the Indian Refining Company, of New York, which was one of the first independent oil-refining corporations to begin operations in the country, and from its organization Mr. White continued as general sales manager for this company, with offices in New York city, until January, 1915. He then resigned his position and became associated in the organization and incorporation of Cosden & Company, as a stockholder and as sales manager of which he shared in the phenomenal growth and development of this company, with offices at Tulsa, Oklahoma. Contrary to the advice and counsel of Mr. Cosden and many other influential friends connected with the oil industry, Mr. White finally severed his association with the company mentioned in order that he might take the initiative in organizing the Inland Petroleum Company, of which he has since been president and treasurer. The splendid advancement and admirable productive connection that have marked the history of this company in the intervening period have fully justified the wisdom of his course and gained to him the unqualified approval of his many friends, including those who had doubted his good judgment in the matter of forming the new organization. Mr. White was born and reared in Cincinnati, where he received his youthful education, and his entire business career has been marked by close association with the oil industry, in which he has won distinctive precedence and definite success.

THE FRANCIS & NYGREN FOUNDRY COMPANY

The modern manufacturing plant of this company is established at 2514 to 2546 Fillmore street, and occupies a ground space of forty thousand square feet, the aggregate floor space utilized in the factory being twenty-six thousand eight hundred and fifty square feet. The business was founded in March, 1898, when incorporation was effected under the present title, and the original location of the plant was at 1550 West Fifteenth street, as designated under the present system of street nomenclature and numbering in Chicago. From this location removal was made to that now occupied, and operations are based on a capital stock of one hundred thousand dollars. The personnel of the official corps of the company is as follows: William Francis, president and treasurer; and Robert D. Phelps, secretary. Mr. Francis has held his present dual office from the time of incorporation, and in the beginning his associates were William Nygren, who was vice-president, and George E. Allison, who was secretary.

The Francis & Nygren Foundry Company has developed a substantial business in the manufacturing of Semi-steel castings, and special attention is given to the making of castings for refrigerating machines, test parts and castings for superheated steam devices. The annual output from the plant aggregates four thousand tons. The expansion of the enterprise is shown forth in the statement that in the beginning the capital stock of the company was but ten thousand dollars, while at the present time it is one hundred thousand dollars, besides which the original force of about twenty-five employes has been increased to one hundred and fifty. The company has membership representation in the Chicago Association of Commerce, the Illinois Manufacturers' Association, the Chicago Foundrymen's Association, and The National Safety Council.

HALL AIR LOCK & RAILWAY SUPPLY COMPANY

One of the more recently established and significantly important industrial enterprises of Chicago is that conducted under the corporate title noted at the initiation of this paragraph, and that productive operations are to be conducted upon an extensive scale needs no further voucher than the statement that the company bases its operations upon a capital stock of one million five hundred thousand dollars. It is further conceded by the most influential financial authorities that the stock of this corporation as now placed upon the market offers one of the safest and most promising of investments. The Hall Air Lock & Railway Supply Company was organized and incorporated in 1917 and succeeded to the ownership of the patents, stock and business of the Cornman Compress Air Lock Company, which had been organized and incorporated in the preceding year. Under date of August 7, 1917, the Hall Air Lock & Railway Supply Company received its corporate charter from the state of Delaware, where the original company had been formed for the manufacturing of the wonderful air lock for railway cars that represents the invention of William W. Cornman. The new company has amplified its provisions functions to include also the manufacturing and handling of varied types of railway supplies, and in August, 1917, the

headquarters of the business were transferred to Chicago, where the company now maintains well appointed offices at 76 West Monroe street. Nearly all **products** to be manufactured and handled by the company are to be issued under patents controlled and owned by the corporation. A general survey of the province of operations that this important industrial concern is to fill can not be given more succinctly than through the reproduction of the following extracts from a recent issue of the Bankers Journal:

“The general public has little idea of the vast amount of claims that railroads in this country have to pay because of goods stolen from freight cars while they are in transit. In fact, one of the most acute problems of freight traffic has always been ways and means of preventing vandalism. It has been exceedingly easy heretofore for thieves to enter freight cars, because the railroads have never used an efficient lock on their doors and because it is a physical impossibility for the railroads to protect their cars for the entire distance of their mileage, even though they have always maintained a large force of special detectives and policemen for this purpose.

“Now science and invention have come to their aid in reducing to a minimum the huge loss from thieving,—which amounts to millions of dollars of stolen goods every year. A most remarkable device has been perfected that will absolutely protect the railroads of the country from car thieves. This invention is called the Hall air lock and is the invention of W. W. Cornman, who has been and still is employed by the Interstate Commerce Commission. It consists of an air chamber, a plunger and a spring; it is keyless and burglar-proof. After a car is loaded, ready for transit, a button is pressed which releases the spring and locks the car. The lock is on the inside of the car, where it can not be pried off or broken, and to open it requires an eighty-pound pressure. This pressure of air is ten pounds in excess of the train line pressure and must be furnished by the engineer in charge of the train. The device has been tested and has the highest approval of railway officials and master mechanics of prominence. It is certain that the Hall air lock will do away with ninety-eight per cent. of the thieving that has been so enormously expensive for the big railroads. In order that this device may be marketed upon the big, broad lines that such a device deserves, a corporation has been formed that is to handle every detail having to do with the manufacture and successful promotion of this valuable appliance. The Hall Air Lock & Railway Supply Company has been formed with a capital stock issue of \$1,500,000, divided into 150,000 shares having a par value of ten dollars each. All of the stock is common, fully paid and non-assessable. Every shareholder is thus assured of fair treatment. In addition to the Hall air lock this company can, under its charter, and will handle all manner of railway equipment. The company is fortunate in having its affairs administered by men who are thoroughly capable, and because of the high type of men in back of its affairs the Bankers Journal has no hesitancy in recommending this issue of stock.”

The personnel of the executive corps of the Hall Air Lock & Railway Supply Company is as here noted: Herbert C. Hall, president; E. C. Loew, vice-president; and Allen Hall, secretary and treasurer. In addition to these executives the directorate of the company includes also John F. Sayers, M. D. Thomson. The organization has been formed upon the strongest and most efficient basis and

the enterprise is destined to develop into one of the great industries of Chicago and of the nation. Of the president of the company the following pertinent statements have been written: "Herbert C. Hall, president and director of the company, has left behind him a record of success in the automobile industry, and has proved his ability as an organizer and administrator of big business. The mere fact that this undertaking has its confidence argues well for its merits and success." Of Mr. Hall it may further be stated that he is a young man of vigorous initiative and executive ability and one who has demonstrated in achievement his title to be classed as one of America's representative young captains of industry. He was born and reared at Oakville, Iowa, the date of his nativity having been August 15, 1887, and his early education included a course in a business college at Quincy, Illinois. Thereafter he entered the employ of the Underwood Typewriter Company, and later he became associated with the great Chicago packing house of Nelson Morris & Company, with which he remained five years. Prior to assuming his present industrial alliance he had been for two years prominently identified with the automobile business.

Edward C. Loew, vice-president of the company, is also president of the Reliable Oil Company, which in the jobbing trade in gasoline, oils and other petroleum products is one of the largest concerns in Chicago. Allen Hall, the secretary and treasurer of the company and father of the president of the corporation, was born at Oakville, Iowa, on the 31st of March, 1866, and is a representative of one of the sterling pioneer families of the Hawkeye state. He has been prominently identified with the banking and real-estate business in his native state for more than fifteen years, and he is known as a conservative financier of broad experience and mature judgment. Mr. Thomson, another of the directors of the company, is cashier of a substantial banking institution in Iowa, and John F. Sayers, likewise a director, is president and treasurer of the Sayers Typesetting Company, of Milwaukee, Wisconsin.

MORSE ADDING MACHINE COMPANY

The admirable products of this Chicago industrial corporation are known and used in the most diverse sections of the civilized world, and the inventions of Charles R. Morse, founder and executive head of the company, are destined to give him enduring prestige as the inventor of mechanism of maximum value in connection with business activities of all kinds. He has signalized in his work a distinct triumph in the production of economical, accurate, simple and invariably efficient adding, listing and calculating machines, of which the most important and most widely used is the Morse "Pre-Vis," a wonderful mechanism for adding, listing and calculating. For his inventions supremacy has been gained on intrinsic merit, and their use has simplified, facilitated and assured accuracy in the handling of all lines of business. It is not within the province of this necessarily circumscribed article to enter into details concerning the labors of the earnest and determined inventor, nor to reveal the vicissitude he encountered ere he was enabled to perfect his devices, but it is sufficient to say that his labors have been crowned with that success which marks true

values in inventions of great and lasting value in connection with the productive economies of life.

The modern and well equipped factory of the Morse Adding Machine Company is located at 16-18 North Ada street, and the business dates its inception from the year 1906, when Charles R. Morse, with associate collaboration, organized the Charles R. Morse Manufacturing Company, the primary functions of which were assigned as the manufacturing and sale of the calculating devices invented by him. Operations were instituted in a room only twenty-five by fifty feet in dimensions, at 56 North Jefferson street, and in this modest little "factory" only three persons were employed in the incipency of the enterprise. The new company here began the manufacturing of the Morse rotary wage table, for figuring pay rolls and labor costs, and concerning this fundamental device that formed the basis of the new industrial enterprise the following brief description is pertinent: "The Morse rotary wage table is a machine particularly intended for the rapid and accurate calculations of the earnings on pay rolls or the distribution of labor charges to different jobs or departmental costs, yet it can be profitably used for many other forms of multiplications, such as figuring piece work, invoices and percentages of gang earnings,—in fact, most any form of multiplication which comes into different forms of business. It is a table arranged in convenient and compact form,—not a scale or slide rule;—the amounts are given in units, plain figures which do not have to be guessed at; and so simple is its operation that an office boy or even a child could operate it."

The Morse rotary wages tables were from the beginning produced in both single and double cylinder form, and the special appeal made was through the fact that the device was placed on the market at most reasonable prices,—ranging from twenty-five to fifty dollars, according to size and requirements. These Morse wage tables are now extensively used in all parts of the United States as well as in foreign countries, and among the important corporations that have availed themselves of the device may be mentioned the United States Steel Company and the Commonwealth Edison Company.

In 1908 the Charles R. Morse Manufacturing Company was incorporated under the laws of Illinois and with officers as here noted: Charles R. Morse, president and treasurer; Charles F. Brown, vice-president; and J. Claude Thornburgh, secretary. In the same year the manufacturing plant was removed to No. 2 Market street, where, on the second floor of the building, at the corner of Lake and Market streets, was obtained a space fifty by one hundred and twenty-five feet in dimensions and where the force of employes was increased to an average of about fifteen. At this location operations were continued until 1910, when the building was torn down, and the company then leased the entire second floor of a building at 166-74 West Madison street, utilizing these quarters for factory and salesrooms. In the meanwhile Mr. Morse had developed and perfected the Morse slide calculator, and the production of the same was added to the manufacturing department of the business. Of this device the following general description is consistently entered:

"The Morse slide calculator is a table of logarithms, ratios and proportions and is operated the same as the ordinary slide rule. It might be called a slide

rule forty feet long. This would be impracticable were it in one line, but these forty feet are divided into thirty parts, or scales, of sixteen inches each, arranged around a cylinder, the disc moving across and around it. On account of the large number of divisions on this scale, products in four and five figures can be correctly obtained, and larger products sufficiently close for all practical purposes, results obtained above four figures being within one one-hundredth of one per cent. With the ordinary slide rule only two figures are correctly obtained. The principal object of this device is to relieve the accountant, bookkeeper or clerk of tedious figuring, and most any form of computation occurring in any business can be accomplished with ease and accuracy by the use of this device, after short practice."

While the business of the company was established at the location last noted Mr. Morse carried forward all of the experimental work incidental to the perfecting of his greatest invention, the Morse Pre-Vis adding machine, which is a most valuable adding, listing and calculating machine and which in its simplicity, compactness, and efficiency represents a distinct innovation and revelation in the production of a thorough adding machine of versatility and low cost. In the simplicity of the Pre-Vis lies its greatest element of strength, and in this invention Mr. Morse succeeded in eliminating about seventy-five per cent of the complex and multiplied parts enterprising into the construction of other types of adding machines. Apropos of this remarkable machine the following quotations are consistently incorporated in this article:

"It has remained for Charles R. Morse, who has been manufacturing labor-saving office devices for many years, to present to the public this little, marvelous listing-adding machine, contained in a case about eight inches square, that will perform every operation of the larger machines,—weighing from fifty to one hundred and fifty pounds,—such as adding and listing, adding without listing, listing without adding, multiplying, subtracting and dividing. The machine, with nine keys and but five hundred parts, weighs but twelve and one-half pounds, can be carried from place to place in the office without the use of a truck or can be taken by traveling auditors, bank examiners, etc., wherever they are required to go. It is an adding and listing machine that can be taken to the work, even on the president's desk, instead of the work having to be taken to it. The machine is pre-visible, and from this fact has been given its name of Pre-Vis,—meaning that when the key is struck the figure shows up immediately on a register, before the operator's eye, and if this figure is wrong it can be corrected before it is either listed or accumulated. This distinctive improvement is one that can be claimed for no other type of adding machine. The versatility of the Pre-Vis is on a parity with its simplicity, positive action and general efficiency, and the device is placed on the market at a price—one hundred dollars—that brings it within the reach of every business man."

The Morse Pre-Vis has met with the favorable reception that is its due and the demand for the same is constantly increasing, as its intrinsic value constitutes its most effective advertising, its users its most enthusiastic exploiters.

In January, 1913, the headquarters of the Morse company were removed to 428-30 North Oakley boulevard, where greater space and more ample facilities were secured to meet the demands of the constantly expanding business. At this

time also was effected the organization of the Morse Adding Machine Company, and on the 1st of January, 1916, this latter corporation absorbed the Charles R. Morse Manufacturing Company, which had continued operations in an independent way, in the manufacturing of the Morse devices other than the Pre-Vis adding, listing and calculating machine. In the spring of 1917 the Morse Adding Machine Company established its manufactory and general offices in the present permanent location, at 16-18 North Ada street, where it occupied a modern industrial building fifty by one hundred and eighty feet in dimensions and two stories in height. The mechanical equipment is of the best type and includes a number of special machines, one of which was invented by Mr. Morse,—for the rolling of the steel type-wheels used in the adding machines. The demand for the Pre-Vis adding machines is such as to test the producing facilities of the factory, and all of the Morse devices are fully covered by patents. The present officers of the company are as here designated: Charles R. Morse, president; John W. Thomas, vice-president Cornelius Vanderpoel, secretary; and Jesse H. Marquette, treasurer.

CHARLES R. MORSE

Charles R. Morse, inventor and manufacturer, has been the executive head of the Morse manufacturing business from the time of its inception and to his technical and executive ability has been mainly due the development of the substantial and important industrial enterprise of the Morse Adding Machine Company, of which he is president.

Mr. Morse was born in the city of Topeka, Kansas, January 18, 1872, and after having completed the curriculum of the public schools he took a thorough course in mechanical engineering, in the University of Kansas, at Lawrence. Thereafter he continued as one of the principals in the contracting firm of J. S. Morse & Sons, at Topeka, Salt Lake City and Denver, until 1900, when he came to Chicago and assumed charge of construction work for the Hammond Packing Company. Later he held the position of efficiency engineer with the American Bridge Company until 1905, when he accepted the position of assistant manager of the manufacturing plant of the Jackson & Corbett Company, with which Chicago corporation he continued his alliance until the following year, when he established his independent manufacturing enterprise and instituted the commercial production of his own inventions, as noted in the preceding article. While with the American Bridge Company he devised a crude wage scale, and this was the basis on which he developed the original device which was the first to be manufactured by his newly organized company, in 1906.

Mr. Morse takes loyal interest in civic affairs and has gained secure place as one of the representative captains of industry and commerce in the western metropolis. He has received the thirty-second degree of the Scottish Rite of Masonry, and is affiliated also with the Independent Order of Odd Fellows, the Knights of Pythias, the Elks and the Royal Arcanum.

January 1, 1903, recorded the marriage of Mr. Morse to Miss Mary Corinne Blair, and they have three children,—Davida, John and Marjorie.

THE AUTOMATIC ELECTRIC COMPANY

Makers of over 1,000,000 Automatic Telephones in use the world over.

How "I Will" fought a pitched battle with "It cannot be done," and won; how a dreamer's vision was turned into a very successful reality and has become today a dominant factor in its particular field, is the history of Automatic Electric Company, which manufactures the Automatic Telephone System, known and used in all quarters of the globe.

The battle began over a quarter of a century ago, and has raged in many countries. But the headquarters of the Automatic forces have been here in Chicago, and through victory this city has come to be the telephone capital of the world, the Mecca toward which telephone experts in all lands look for inspiration and guidance.

As has been true in so many other great business enterprises, the story of the Automatic Telephone, and of the company that manufacture this equipment, is largely the account of a personality. Or in this case, two personalities which, to a remarkable extent, have supplemented each other. The business acumen of the one has dovetailed into the technical skill of the other and now, surrounded by a staff of nearly 1,200 co-workers, these two men still guide the destinies of the enterprise they started more than 25 years ago.

Back in the late 80's, Joseph Harris was a young and successful traveling salesman, but he had no intention of spending his life in that work. Born and bred in Chicago, he was thoroughly imbued with the spirit of the Metropolis of the Middle West, and only awaited the proper opportunity to launch out into bigger fields.

Practically without capital himself, he had, nevertheless, won the confidence and esteem of men of wealth, and he knew that when he presented an enterprise which, in his judgment, gave promise of adequate success, he would be able to bring to it not only ample ability but also a substantial degree of financial support.

His selection of that enterprise, however, was such as to try the faith of his friends to the utmost, for he finally chose for his life work an idea so far ahead of its time that an almost universal "Impossible" greeted him.

While on a business trip to Kansas City, Mo., during 1889, Mr. Harris happened by chance to encounter a certain A. B. Strowger, amateur scientist and tradesman in a small way. Incensed by what he considered a deliberate conspiracy on the part of the telephone operators to ruin his business, Mr. Strowger had set himself the task of creating a device which would mechanically perform the functions of the switchboard girls, and thereby prevent all such plots in the future.

Filled with his idea, Mr. Strowger poured out his story to Mr. Harris and exhibited the absurdly crude model that embodied his vision. Not being an expert Mr. Harris did not laugh, nor was he aware of the difficulties that stood in the way of making it a practical equipment. Instead, he saw at a glance the great need for just such a device, he perceived the tremendous possibilities that lay in it, and he decided that here was the opportunity he had been seeking.

Returning to Chicago, Mr. Harris laid the project before his friends, inspired

them with his vision and formed a company for the purpose of developing and selling Automatic Telephone equipment. This company was capitalized at \$5,000,000 and was known as the Strowger Automatic Telephone Exchange, with M. A. Meyer as President, A. B. Strowger, Vice-President, and Joseph Harris, Secretary. The original company was succeeded some ten years later by the



THE HOME OF THE AUTOMATIC TELEPHONE

present Automatic Electric Company which acquired all the property and rights of its predecessor. Mr. Harris was made President and Mr. Strowger retired from active participation in the business.

A chance meeting had determined Mr. Harris' future career. Another accident brought to him the man whose technical knowledge was destined to turn the inventor's first crude attempts into the finished and perfected equipment of today.

Early in 1892, the Strowger Automatic Telephone Exchange entered into negotiations with the Brush Electric Company of Baltimore, and the officials of

the Eastern concern sent a young engineer to Chicago to make certain investigations and reports.

Mr. Alexander E. Keith, although scarcely thirty years old, had won the entire confidence of his employers. Fresh from a very successful tour of duty in South America, where he had been in charge of some large telephone, telegraph and industrial projects, there was every probability that new and greater responsibilities and corresponding rewards were before him.

Acting upon the orders of his employers, Mr. Keith came to Chicago, saw the Automatic Telephone, and was conquered. He accompanied his report to his firm with his resignation, for he, too, saw the Automatic as a great opportunity. His trained eye detected the defects in the equipment as it then existed, but in imagination he saw how to correct them, and without reserve he flung himself into the task of realizing these visions.

That these two young men, the business pioneer and the practical inventor, and the handful of associates who remained loyal through all the struggles, were able to survive at all is only less remarkable than the success that has crowned their faith and efforts. For years there were arrayed against them the vast majority of telephone experts and practical men in the business. "It cannot be done" was the claim of practically all who watched their attempts, and it was only the indomitable insistence upon Chicago's slogan "I Will," that turned the tide.

But the tide did turn, finally slowly but surely the idea of Automatic Telephony, by which calls are made not by the human hands of operators, but by the steel and brass fingers of swift and accurate machines, forged to the front.

At first a few venturesome spirits in America, and then the leading engineers and experts of the entire world, began to give heed to their "dream" that was coming true. The severest kinds of tests were made, and demonstrated that the Automatic Telephone was practical. Experimental installations proved that the public preferred the mechanical service of the Automatic to the manual service of old-style systems. One by one city exchanges were equipped with this apparatus. The Governments of Great Britain, France, Germany, Austria, Australia, the western Provinces of Canada, India, and the War and Post Office Departments of the United States, approved the Automatic and began using it extensively. The battle was won.

To handle the large foreign business that developed, affiliated companies were formed in Great Britain, Australia and Canada, while contracts giving manufacturing and selling rights were entered into with the French Thompson-Houston Company, and Messrs. Siemens and Halske, the largest electrical firms in France and Germany.

Today Automatic Electric Company is known both at home and abroad as one of Chicago's great industrial organizations. Located at the corner of Morgan and Van Buren streets, in the heart of the city's west side manufacturing district, its factory and general offices occupy the whole of a modern, six-story and basement building covering an entire block. Nearly 1200 men and women, the great majority highly trained experts, are devoting all their efforts to the production of the Automatic Telephone equipment that is distributed to all parts of

the world. Part of this output goes abroad, to England, France, India, Australia, Cuba, South America and Canada. Part goes to such cities as Minneapolis, St. Paul, Indianapolis, Los Angeles, Grand Rapids, and more than two-hundred others, to serve the public telephone needs there. An ever-increasing volume is



JOSEPH HARRIS

President and Founder

being installed in great commercial and industrial plants, where it is used for interior communication. Each year sees a large addition to the number of organizations such as the country's leading railroads, banks, hospitals, automobile factories, steel mills, government forts and arsenals, which have learned that efficient and economical operation depends upon adequate telephone service between all parts of the establishments and that the Automatic Telephone completely meets their exacting requirements.

More than one million of these Automatic Telephones are in use throughout the world today. In every civilized country they are in operation.

It is said that in certain remote corners of the earth, Chicago is known because of the canned beef that bears the name of this city. The traveler in Argentine, Cuba, Hawaii, Australia, India, who claims Chicago as home, is often greeted with:

"Oh! yes, that is where our Automatic Telephones are made."

Joseph Harris, president of the Automatic Electric Company, was born in Chicago, June 19, 1854. He is the son of Solomon and Hannah (Summerfield) Harris and was educated at the Dearborn and Jones grammar schools and West Division High School, Chicago; married Grace Cole, of Chicago, May 15, 1877; two sons: Sanford F. and Harmon A. He is one of the pioneers in developing the independent telephone service and was the first to promote the automatic telephone as a commercial utility; was instrumental in organizing the Automatic Electric Company in 1901, of which he has since been consecutively vice-president and president.

Through Mr. Harris' activities the Governments of many foreign countries, among them Great Britain, France, Italy, Germany, Austria, Australia and India, have adopted the Automatic System in numerous cities throughout the world.

M. SCHULZ COMPANY

In 1869, about two years before Chicago was visited by one of the greatest and most memorable urban fires in the annals of history, there was here founded in a modest way the business enterprise that was to prove the nucleus around which has been evolved the important and extensive industrial and commercial business now controlled by the M. Schulz Company, the title of which perpetuates the name of the honored founder of the corporation, the late Matthias Schulz. In the manufacturing of pianos and player pianos the M. Schulz Company has long maintained a foremost place and the concern stands as one of the really great industrial institutions of the western metropolis, with a history of consecutive growth along normal lines of enterprise and with a record that reflects enduring credit upon the sterling citizen whose ability and progressiveness made possible the development of the enterprise to its present important status.

The business had its inception in 1869, when Matthias Schulz, Michael Bauerle and Frank Patzack formed a partnership and initiated the manufacturing of fine cabinet work under contract with sewing-machine companies. The original capital of the firm was only one thousand dollars, and the little factory was situated on West Erie street. At the beginning attention was given exclusively to manufacturing the woodwork utilized by the sewing-machine companies, but in 1871, the year of the great Chicago fire, the concern had amplified its operations by manufacturing furniture specialties for leading furniture factories in the city. In that year Mr. Schulz sold his interest in the business to Mr. Bauerle, but within a comparatively short time he purchased the entire interest of Mr. Bauerle, whereupon the firm title of Patzack & Schulz was adopted. Removal was made to larger quarters, which the firm purchased at the corner of Morgan and Superior streets. In 1876 Mr. Schulz purchased his partner's interest and assumed full control of the business, under the title of M. Schulz. With the consecutive and substantial expansion of the business, Mr. Schulz finally manifested his keen judgment in the matter of commercial expediency by providing for the amplification of facilities through the organization and incorporation of a stock company, with a capital of fifty thousand dollars. It was in 1889 that the M. Schulz Company was thus incorporated under the laws of Illinois, and Mr. Schulz retained individual title to the factory and connected real estate. His progressiveness and circumspection led him to make good use of all opportunities presented in the expanding of the scope of the enterprise, and gradually the company gave special attention to the manufacturing of fine casework for pianos and organs. In 1893, in consonance with the well ordered plans of Mr. Schulz, president of the company, there was instituted at the plant the complete manufacturing of organs, and in the following year the company began to manufacture pianos of high grade. This, as a matter of course, involved the large expansion of the manufacturing equipment and the general enlargement of the plant, the main factory having in 1897 been established at the corner of Erie, Ohio and Carpenter streets. Under the energetic and able management of Mr. Schulz was built up one of the great industries lending commercial prestige to Chicago, and he continued until his death the executive head of the company which he had founded and the present importance of which is indicated by the fact that it now bases its operations upon a capital stock and surplus fund that

together aggregate more than one million dollars. Matthias Schulz achieved a man's work in a man's way and his record was one of large and worthy accomplishment, as even the brief data of this review show forth. He was not yet sixty years of age at the time of his death, in 1889, and his son Otto is his successor as president of the M. Schulz Company, the other members of the executive corps being as here noted: Emil W. Wolff, vice-president; Frederick P. Bassett, second vice-president; and Frederick A. Luhnnow, secretary and treasurer. The executive offices of the company are maintained in the Schulz building, at 711 Milwaukee avenue, and in the Candler Building in the city of Atlanta, Georgia, is established the southern wholesale branch of the company. From a 1917 edition of the Purchasers Guide are taken the following pertinent extracts, with minor paraphrase:

"The M. Schulz Company operates a large group of factories in Chicago and these are distinguished by their design, layout and equipment. In them are produced the various styles of the M. Schulz Company's grand and upright pianos and the M. Schulz player piano, an instrument which has had an unusual success wherever it has been introduced. The player mechanism in the M. Schulz Company's player piano is the exclusive product of the company's factories and is in every way original and efficient. It excels in lightness of pumping, instant response to foot pressure, wide range of power and absolute reliability. The M. Schulz Company's player piano has been for the past seven years successfully sold all over the United States. The M. Schulz Company piano is an instrument of old-established reputation. Excelling in fine workmanship and design, the instrument is regarded throughout the trade circles as being of high grade, with individual features that have made it one of the strongest selling favorites. The aim is to make the M. Schulz Company piano, in touch, tone and architecture, an instrument that shall appeal to the intelligence of the cultivated buyer. More than one hundred and twenty thousand pianos and player pianos have been manufactured and sold by this company, which also manufactures the Walworth & Irving pianos. The company sells more than twelve thousand pianos annually, and it corps of employes is in excess of seven hundred persons.

MATTHIAS SCHULZ

The able and honored founder of the company which perpetuates his name and achievement was born in the walled town of Warburg, Westphalia, Prussia, on the 14th of July, 1842, and he was orphaned in his childhood. His father and grandfather had been valiant soldiers in the Prussian army and thus it became his privilege to receive the advantages of the Potsdam Military Orphan Asylum, an institution that was founded by Frederick the Great, to provide for the care and education of orphan children of German soldiers. Thus the subject of this memoir gained excellent academic and military training in his youth, and in his native land he served a characteristically thorough apprenticeship to the trade of cabinetmaker. After receiving the certificate that marked him as a skilled journeyman, he went to London, England, in 1864, and there he was employed at his trade for the ensuing two years, within which period he

gave special care to the study of English, in the use of which language he acquired facility. In 1866 Mr. Schulz came to America and established his residence in Chicago, where he readily found employment at his trade. His exceptional mechanical skill soon attracted attention in manufacturing circles and he finally was prevailed upon by the executives of Chicago sewing-machine companies to establish himself independently in business and to execute contracts for the supplying of the cabinet work for these companies. Of his advancement from this stage in his career adequate record has been given in preceding paragraphs.

Mr. Schulz was a man of mature judgment, of splendid business ability and of utmost civic loyalty. He was influential in public affairs in his home city, though in a quiet way, and the fact that for fifteen years he was severely afflicted with asthma prevented him from participating more largely in city affairs. He commanded the respect and confidence of all who knew him and was one of the veritable captains of industry who aided in the upbuilding of the great metropolis on the shores of Lake Michigan. He passed to eternal rest on the 2nd of January, 1899, and his achievement constitutes his most worthy and enduring monument. His political allegiance was given to the Republican party and his religious faith was that of the Lutheran church.

In the year 1869 Mr. Schulz wedded Miss Mary Boelder and her death occurred in 1874. Of the three children of this union the eldest is Otto, concerning whom more specific mention will be made in later paragraphs; Ida died when about thirty-one years of age; and Mary is the wife of Frederick P. Bassett, vice-president of the M. Schulz Company. In 1875 was solemnized the marriage of Mr. Schulz to Miss Emma Beck of Chicago, and she still maintains her home in Chicago. Of the three children of the second marriage two are living, —Clara, who is the wife of J. Henry Goehst, superintendent of construction of the Commonwealth Edison Company and president of the Federal Electric Company, both of Chicago; and Amanda, who is the wife of Joseph F. Johnson, an executive principal in the Johnson Chair Company of Chicago.

OTTO SCHULZ

The present president of the M. Schulz Company was born in Chicago on the 15th of August, 1870, and in the public schools he continued his studies until he had duly profited by the advantages of the grade school. Thereafter he completed a course in the Bryant & Stratton Business College of Chicago. When a lad of fifteen years he took a minor clerical position in the establishment of the American Varnish Company, with which he remained eight months, and in the meanwhile he continued his educational work by taking special courses of study in the evenings and under the direction of private instructors. After leaving the service of the company mentioned he found employment in his father's factory, and he applied himself diligently and appreciatively, with the result that he learned every detail of the business and was thus amply fortified when he became the executive head of the great industrial enterprise that had been built up by his honored father, since whose death he has been instrumental

in organizing with his business associates the following subsidiary companies: Werner Piano Company, Brinkerhoff Piano Company, Magnolia Talking Machine Company. The M. Schulz Company is represented in active membership in the Illinois Manufacturers' Association and the Chicago Association of Commerce. Mr. Schulz has completed the circle of the Scottish Rites of the Masonic fraternity, besides being affiliated with Medinah Temple of the Mystic Shrine, and he is a member of the Chicago Athletic Association, the Chicago Press Club, and the Chicago Ad. Men's Club. He has been active and influential in the affairs of the Northwestern Commercial Association, and served two years as president of the same. He takes loyal interest in all things touching the welfare of his native city, is one of the representative business men of Chicago, and in politics is a Republican.

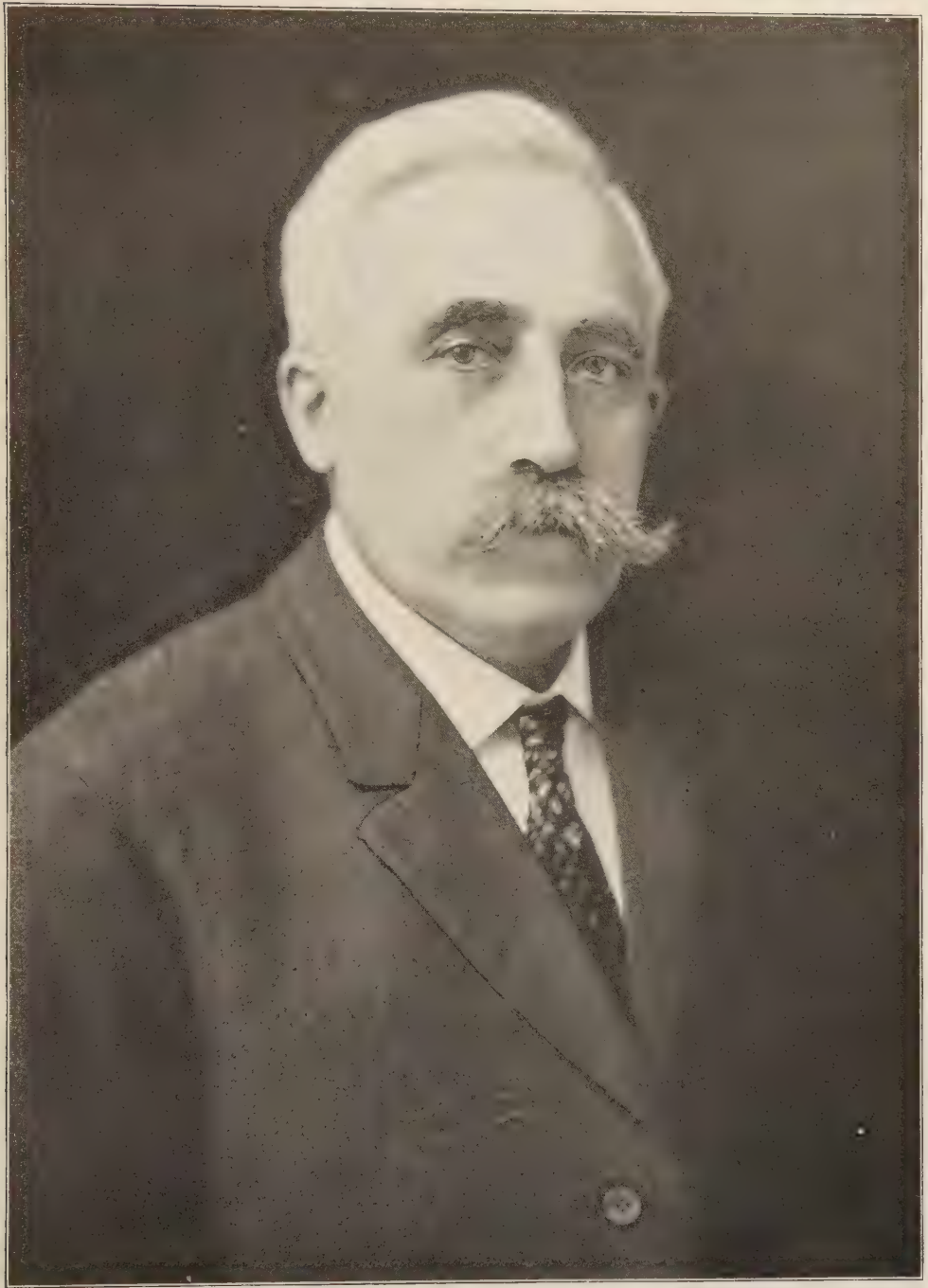
February 6, 1899, recorded the marriage of Mr. Schulz to Miss Emma Jung, daughter of William H. Jung, of Chicago, and the five children of this union are Marie, Otto, Jr., Carl, George and Williams.

C. F. BAUM COMPANY

In the manufacture of braids, cords, tassels, fringes, ornaments and other specialties and trimmings for dresses, cloaks and millinery, this company is one of the largest and most important in the west, and its facilities are unexcelled in all departments, the office and factory building, at the corner of Frontier avenue and Blackhawk street, being a modern industrial building of five stories and basement. The business of the C. F. Baum Company was founded in the year 1881, and its history has been one of consecutive growth and expansion, owing to efficiency of service and the correct commercial ethics brought to bear in its prosecution. In the Willoughby building, at the corner of Jackson boulevard and South Franklin street, are established the handsomely appointed salesrooms of the company. Christoph F. Baum has been president of the company from the time of its organization and incorporation; Frederick Wilhelm is vice-president; J. J. Siddall, Jr., holds the office of secretary; and O. G. Baum is treasurer. The record of the development of the prosperous and well ordered commercial enterprise controlled by this corporation is more fully given in the following review of the career of the president of the company.

CHRISTOPH F. BAUM

Christoph F. Baum was born in the thriving industrial town of Eschwege, Hesse-Nassau, Prussia, on the 31st of January, 1853, and is a son of Jacob and Dorothea (Gebhart) Baum. He is the only survivor in a family of eight children and all of the others died in infancy or early childhood. The parents of Mr. Baum were in comfortable financial circumstances and he was afforded good educational advantages in his youth, though he was but fifteen years old when he entered the efficiency school of practical experience. He was at that period in



CHRISTOPH F. BAUM

his career apprenticed to learn the trade of textile manufacturing, in which line of industrial enterprise his native town has long been a place of no minor importance. At the age of nineteen he had become a master of his trade and, thus fortified, his ambition prompted him to immigrate to the United States, though this decision was definitely in contrariety to the wishes of his parents, who were loath to have their only son leave them, perhaps forever. The decision of Mr. Baum was largely the result of his appreciation of the changed conditions caused in his native land by the war of 1866, which placed heavy burdens of taxation upon the people and made it well nigh impossible for small manufacturers to compete with more extensive and strongly financed institutions of the kind. He had fully determined to establish as soon as circumstances justified an independent manufacturing business and he came to a realization that in America was afforded a far superior opportunity for the attaining of this end. He finally prevailed upon his father to consent to his coming to the United States, and his father had to make a special plea to gain from the government the requisite passports for the son, who was of military age. This result was accomplished only after governmental officials had made special physical examination of Mr. Baum and had discovered that an ear trouble which had affected him for years militated against his eligibility for military service, the officials having questioned his former teachers and others who knew him well. Had this government permission for the young man to leave Germany been denied, the estate of Mr. Baum's father would undoubtedly have been confiscated for his virtual connivance in enabling the youth to leave Germany when still of an age that made him in line for the military service demanded by law. The father of Mr. Baum refused to him more than nominal financial assistance at this time, as he still hoped and believed that the young man would soon return to his native land.

On the 14th of October, 1872, Mr. Baum departed from his native city and after his arrival in the port of New York city he came directly to Chicago. Here he first found employment as clerk in a grocery store, and later he purchased a small stock of merchandise, which he engaged in selling by a house to house canvass. He thus continued his activities until 1874, when he entered the employ of A. B. Fiedler, a textile manufacturer. In the second year he was made foreman of a department in the factory and he continued in the employ of Mr. Fiedler for eight years, during which time he carefully saved his earnings. In 1881 Mr. Baum formed a partnership with Emil Ernest, each making an investment of five thousand dollars, and the new firm of Baum & Ernest engaged in the manufacturing of trimmings for dresses, cloaks and millinery, later adding a line of upholsterers' trimmings. The original factory was established at 150-152-154 Fifth avenue, where was utilized two floors with a space of six thousand square feet and where was retained a working force of thirty-five employees. The products of the factory were sold locally,—to several of the largest mercantile establishments in Chicago, such as cloak and clothing manufacturers and dry goods, including Marshall Field & Company, Carson, Pirie & Scott and others. In 1884 Mr. Ernest sold his interest in the business to Mr. Baum and turned his attention to a radically different line of enterprise. Thereafter Mr. Baum continued operations in an individual way for one year, and in 1885 he admitted to partnership one of his valued salesmen, Charles Wirths, besides which Christoph P. Gerlach became a member of the firm at this time, he having been in former

years of young Baum his employer in the latter's native town of Eschwege, Germany. Thereafter the business was continued under the firm name of C. F. Baum & Company until January 1, 1888, when Mr. Baum acquired the interest of each of his partners and again assumed full control of the enterprise, which had by this time become one of very substantial order, the floor space of the factory having been doubled and employment having been given steadily to fifty persons. Mr. Baum successfully continued the business in an individual way from 1888 to 1894, in which latter year he incorporated the business under the laws of Illinois and with a capital stock of forty thousand dollars. It had been his earnest desire eventually to admit his sons to partnership in the business, and it was a severe blow to him when his son Frederick, a promising lad of fifteen years, was called from the stage of mortal life, on the 29th of October, 1892. The eldest son, Oscar G., has proved a valued coadjutor in the business in later years and is now treasurer of the Company.

In 1891 the factory was removed to more eligible quarters, at 222-26 Market street, where fifteen thousand square feet of floor space were secured, in a building owned by the late John P. Altgeld, former Governor of Illinois. Here the working force was again doubled, and in the meanwhile, in 1885, the manufacture of upholsterers' trimmings had been abandoned, this department of the enterprise having been sold advantageously. After remaining seven and one-half years in the Altgeld building Mr. Baum was compelled to seek a new location, as the building was razed in connection with the construction of the Metropolitan elevated railway. Under these conditions removal was made to the Ryerson building, corner of Madison and Franklin streets, and here the force of employes was increased to one hundred persons. In 1899 Mr. Baum had purchased the property at the corner of Frontier avenue and Blackhawk street, and here, in 1903, he erected the present six-story factory building, which is of the most approved modern type and affords a floor space of seventy-one thousand two hundred square feet. The building was completed in December, 1903, and Mr. Baum celebrated the event by giving a lavish banquet to those concerned in the building of the structure,—from the humblest hod-carrier to the architect of the building. Since 1903, under normal conditions, the company has given employment to an operative force of nearly two hundred persons and the products of the factory are now sold in all parts of the United States, besides which a substantial trade has been developed in the Canadian provinces and various South American countries. The company gives employment to an able corps of seven traveling salesmen. A splendid achievement has been that of Mr. Baum in the upbuilding of the large and prosperous manufacturing and commercial enterprise of which he is still the active executive head, and he has had no reason to regret the decision that prompted him to come to the United States, his civic loyalty and fealty being both appreciative and unfaltering. The C. F. Baum Company is represented in membership in the Chicago Association of Commerce and the Illinois Manufacturers' Association.

On the 8th of February, 1877, was solemnized the marriage of Mr. Baum to Miss Caroline Kern, of Chicago, she having been born in Alsace-Lorraine, Germany. Of the five children of this union three are deceased,—Frederick B., who died October 29, 1892, at the age of fifteen years, as previously noted in this context; Lena B., who died at the age of thirteen months, and Emil B., who died

in infancy. Oscar G., who is treasurer of the C. F. Baum Company, and Blanche is the wife of Norman G. Harding, of Chicago.

He and his devoted wife devote several months each year to travel and he is enjoying to the full the gracious rewards that have attended his many years of earnest and fruitful endeavor. Mr. Baum is liberal and generous, has the confidence and high regard of all his employes, some of whom have been associated with his business for a quarter of a century, and the fact that his concern has never had any semblance of labor troubles bears its own significance. Incidentally it may be noted that the goods displayed by the C. F. Baum Company at the World's Columbian Exposition, in 1893, received the highest reward in their line of manufacture, and for which he received medal certificate for silk dress trimmings, mohair dress trimmings, fringes, buttons, (silk crochet) and braids. For excellence in variety and manufacture only the best raw material being used, the majority of the goods were of original design. The ornaments worn by the Columbian Guards were designed by Mr. Baum and were particularly pretty and graceful. Cords Silk and Mohair—Good manufacture of cord both silk and wool.

OSCAR G. BAUM

Oscar G. Baum, treasurer of the company founded by his father, was born in Chicago on the 3d of June, 1881, and is known as one of the vital and progressive young business men of his native city. After profiting by the advantages of the public schools he completed an effective course in Metropolitan Business College, in which he was graduated at the age of seventeen years. He then entered the office of his father's company and here he rose step by step, grew familiar with all departments of the business and finally proved himself thoroughly eligible for the office of treasurer of the company, a position of which he has been the incumbent since 1913.

April 26, 1905, recorded the marriage of Mr. Baum to Miss Elizabeth Frosch, daughter of Frederick Frosch, of Chicago, and the names and respective dates of birth of the three children of this union are here noted: Clarence Frederick, September 23, 1908; Frederick William, March 19, 1914; and Jeanette Elizabeth, April 30, 1917.

Both Christoph F. and Oscar G. Baum are found aligned as staunch supporters of the cause of the Republican party in the matter of national politics, but in local affairs they are not constrained by strict partisan lines. Both are affiliated with the Masonic fraternity and the father is a past patron of a local chapter of the adjunct organization, the Order of the Eastern Star, besides being past chancellor of Schiller Lodge, No. 15, Knights of Pythias.

THE GAGE-DOWNS COMPANY

In the manufacturing of the finest types of corsets this company holds a prominent place as an exponent of this line of industrial and commercial enterprise

in Chicago, and the annual output from the factory has attained to the average aggregate of seventy-five thousand dozens of the popular brands of corsets that have given the concern wide reputation and brought about the expansion of its business into the most diverse sections of the United States. The factory and offices of the company are established at 2700-2708 Wabash avenue, and are thoroughly modern in equipment and appointments. The business conducted under the above corporate title was founded in 1891, by William Lehman and Murray C. Mayer, and the original manufactory was established at 270 Fifth avenue, where requisition was made for thirteen hundred square feet of floor space and where the corps of employes numbered fifty-two. William Lehman was the president and treasurer of the company and retained this dual office until his death, in 1911, while Mr. Mayer was the original vice-president and secretary. Murray C. Mayer became president and treasurer of the company after the death of his honored coadjutor, William Lehman, and the latter's only son, Bruce W., is now vice-president and secretary.

In 1911 the company established its factory in the present quarters, where is utilized an aggregate floor space of seventy-five thousand square feet and where employment is given to four hundred persons, including a large number of skilled operatives. The Gage-Downs "Justrite" corsets constitute the principal output of the well equipped factory and their superiority is indicated in the extensive trade controlled by the company through the various states of the Union, branch offices and stock rooms being established in the cities of New York and San Francisco. The company has membership in the Illinois Manufacturers' Association and the Chicago Association of Commerce, as well as the National Association of Commerce. The large and prosperous business has been developed along normal and legitimate lines and the best commercial ethics and business policies have been maintained at all times, with the result that efficiency of service and honorable dealing have given the concern a reputation that is a most valuable commercial asset.

WILLIAM LEHMAN

William Lehman, who attained to success and influence as one of the strong and honored business men of Chicago and who was one of the founders of the business conducted by the Gage-Downs Company, was president of this corporation at the time of his death, which occurred in 1911, as noted in the foregoing article. He was born in Schornweisach, Bavaria, Germany, December 11, 1856, and there was reared and educated. He was a lad of about sixteen years when he came to America, in 1871, and his energy and initiative ability soon gained to him advancement. From 1877 to 1891 he conducted a general-merchandise establishment at Chetopa, Kansas, and in the latter year he became a resident of Chicago and a principal in the Gage-Downs Company, with which he continued his active association during the remainder of his life and of which he was president and treasurer at the time of his demise. Mr. Lehman was a stalwart republican in politics and was a popular and valued member of the Standard Club and the

Ravisloe Country Club. In 1886, at Parsons, Kansas, was solemnized the marriage of Mr. Lehman to Miss Mattie C. Bing, who survives him and who still resides in the attractive home which he provided at 4742 Grand boulevard. Mr. Lehman is survived by two children,—Louise C. and Bruce W., the latter of whom is now vice-president and secretary of the Gage-Downs Company.

BRUCE W. LEHMAN

Bruce W. Lehman is well upholding the prestige of the family name, both as a vigorous and progressive young business man and as a loyal and public-spirited citizen. He was born at Chetopa, Kansas, on the 29th of May, 1890, and in the following year his parents established their residence in Chicago, where he was reared to manhood and where his early education was obtained in the public schools, besides which he took a special course in mechanical engineering at the celebrated Armour Institute of Technology. He holds the same political faith as did his father, and is a member of the Standard Club, the Ravisloe Country Club and the Lake Shore Country Shore.

MURRAY C. MAYER

Murray C. Mayer, president and treasurer of the Gage-Downs Company, has achieved a secure vantage-place as one of the progressive and representative factors in the industrial and commercial circles of his native city and is a scion of one of the old and honored families of Chicago.

Murray Charles Mayer was born in Chicago on the 12th of May, 1859, and is a son of Nathan and Henrietta Mayer, both now deceased. He was a child at the time of the family removal to New York city, where he attended grammar school and finally passed examination for entrance into the College of the City of New York. The family, however, returned to Chicago about this time and here he attended a business college for one year. In the initial period of his business experience he was employed about two years in a wholesale grocery house, and his original association with the manufacturing of corsets was through alliance with enterprises of this order in New York city and New Haven, Connecticut. He began his connection with the corset business in 1878 and in the east continued his association with C. B. Corset Company until 1890, when he returned to Chicago. In 1891 he became vice-president and secretary of the Gage-Downs Company, and of this dual office he continued the incumbent until the death of William Lehman, when he succeeded the latter in the position of president and treasurer, in 1911.

Mr. Mayer is an active member of the Standard Club, the Ravisloe Country Club and the Chicago Automobile Club. At New Haven, Connecticut, on the 15th of October, 1884, Mr. Mayer wedded Miss Fannie Ullman, and they have one daughter, Grace Edith, the family home being at 4243 Drexel boulevard.

KESSLER SAFETY DEVICE COMPANY

A successful and essentially beneficent industrial enterprise has been developed by this company in the manufacturing of varied types of safety devices that conserve definitely the saving of both life and property. These Kessler devices have manifold applications and it may be noted in a preliminary way that they are specially available for use in connection with automobiles, motor boats, underground tanks, portable wheel tanks, the garage, the filling station, in the household and by the dry-cleaner, the printer, the druggist, etc. The Kessler devices insure maximum safety in the handling, storing and transferring of gasoline, benzine, naptha, rigoline, ammonia, sulphur-ether, alcohol and all manner of volatile oils. The products from the well equipped factor of this company have received the unqualified commendation of fire-insurance underwriters, fire-department officials and others whose judgment is authoritative, and by their use insurance rates are materially lowered. The manufactory of the company is established at 127-29 South Green street and here are provided the best of facilities for meeting the constantly increasing demands for the products of the concern.

The Kessler Safety Device Company was originated by Louis Kessler in the year 1913, and was incorporated under the laws of Illinois, with a capital stock of fifty thousand dollars, the organization having been thus perfected for the purpose of manufacturing non-explosive gasoline cans invented and patented by Louis Kessler and the original corporate title having been the Non-Explosive Can Company. The first manufacturing plant of the new company was located at 6305 South Peoria street, where the corps of employes numbered about twenty men and where the output for the first year aggregated about forty-five thousand dollars in value. The officers chosen at the time of incorporation were as follows: Otto R. Brettman, president and general manager; Louis Kessler, vice-president; and William Grunow, secretary and treasurer. The specific products of the company's factory continued to be the non-explosive cans almost exclusively until 1916, and in the meanwhile the trade had been gradually extended throughout many different states of the Union and also into the Canadian provinces, besides which Mr. Kessler had given further evidence of his inventive genius by the obtaining of twenty-eight different patents on devices developed by him for the further insuring of safety in the handling of volatile petroleum products.

In March, 1916, was effected a reorganization of the business and the present corporation of the Kessler Safety Device Company was formed as successor of the original company, the capital stock of the new corporation being placed at one hundred and fifty thousand dollars. The company now controls about fourteen additional patents, mainly on inventions of Mr. Kessler and the province of manufacture has been extended to include the production of the Kessler safety-tubes and safety-tanks and also all manner of containers for explosive liquids,—from those devised for use on the ordinary gasoline stove to underground tanks of one hundred thousand gallon capacity. The Kessler safety tubes and safety tanks make gasoline containers absolutely non-explosive and prevent the evaporation of the gasoline, these conditions holding good also in connection with all similar fluids, the Kessler safety tube making the container both gas and air tight. It is well understood that the evaporation of gasoline and

similar products constitutes the great element of danger, and the Kessler safety devices serve as absolutely effective agents in the saving of both life and property, as they prevent explosions occurring in containers under any and all conditions and thus insure the maximum of protection in the use of volatile liquids that are now such an important element of service in the home and in connection with automobiles, motor boats and gasoline engines in general. Literature issued by the company gives adequate description of the various improved devices and non-explosive tanks manufactured by the corporation, and the same is readily available, so that all who seek to insure safety in the use of gasoline and similar products may gain all desired information by direct application to the company.

The most significant evidence of the efficiency and great value of the Kessler safety tubes, non-explosive containers and other appliances is that afforded in the fact that within the past two years the trade of the company has been extended into virtually every civilized country, a recent order having been received from Bombay, India. The mechanical equipment of the company's plant has been brought up to the highest modern standard and included various machines devised specially for the handling of certain portions of the productive work. It may be noted incidentally that the municipal authorities of Chicago have adopted the Kessler safety-containers and other devices, that the same have received the unqualified approval of the National Board of Fire Insurance Underwriters, and that many extensive industrial and commercial concerns have equipped their plants with the Kessler safety devices. The officers of this progressive and important corporation at the present time are as here noted: S. A. Smith, president and General Manager; Louis Kessler, vice-president; Marcus Levy, treasurer; and Jesse L. Vincent, secretary and general manager.

JESSE L. VINCENT

Jesse L. Vincent, secretary and general manager of the Kessler Safety Device Company, of which description has been given in a preceding article, was born in the city of Oswego, New York, in 1871, and there he profited fully by the advantages afforded in the public schools. In 1890 Mr. Vincent came to Chicago and entered upon a practical apprenticeship in the manufactory of the Chicago Screw Company, where he so applied himself as to become a skilled artisan. He continued his association with mechanical work until 1902, when he received a special appointment to a position in the postoffice department, his efficient services in this connection having continued at the Chicago postoffice for the ensuing two years. Impaired health then caused him to assume a less exacting position in the postoffice, and there he continued his services until 1916, when he assumed his present dual office of secretary and general manager of the Kessler Safety Device Company. He has here proved his executive ability in an effective and productive way and is one of the progressive representatives of industrial enterprise in Chicago. Mr. Vincent is prominently identified with the Modern Woodmen of America, in which fraternal order he has held the office of district deputy since 1909.

LOUIS KESSLER

Louis Kessler, whose inventive ability forms the primary basis upon which has been developed the substantial industrial enterprise of the Kessler Safety Device Company, was born in Germany, in 1861, and there he was reared and educated, besides serving a thorough apprenticeship to the trade of machinist. In 1884 he came to the United States and after remaining about one year in Chicago he proceeded to Kansas City, Missouri, where he operated a machine shop for the ensuing two years. He then removed to Des Moines, Iowa, in which city he established himself in business as a machinist and manufacturer of ornamental iron. He continued the enterprise for the long period of twenty-one years, within which he built up a substantial and prosperous business. Within this period also he took a special course in mechanical drafting and manufactured in his shop one of the first carburators or mixers ever produced in the United States, the device having been one of his own invention. It was while engaged in business in Des Moines that Mr. Kessler conceived also the idea of producing a non-explosive container for gasoline and other volatile fluids. For more than fifteen years he continued his careful study and experimentation in his laboratory, and the first demonstration of the Kessler safety tube was made in Des Moines in 1903. He was not satisfied with results, however, and he continued his experimentation until he finally perfected the device, which has now been successfully exploited in a commercial way by the Kessler Safety Device Company, of which he is vice-president, the foregoing article giving further data concerning his inventions and worthy achievement. He has received a large number of patents on his inventions and has at the time of this writing, in the autumn of 1917, five other patents pending on devices invented by him for the protection of life and property.

EUGENE O. REED COMPANY

This company has specialized in the manufacture of Butter Scotch candy and has established for itself, by absolute adherence to the principle of purity and perfection in manufacture and the "square deal" in merchandizing, a position of marked relative importance in the industrial life of Chicago. The business was founded in an extremely modest way in the year 1894 by William Reed and his two sons, Eugene O. and William P. The first manufacturing was done in the basement of the family residence at 508 Nelson St., Chicago. Persistent effort was rewarded by a continuous and healthy growth and in 1900 the business was moved to a two-story factory building on Wellington Street just west of Clybourn Ave. In 1903 the business was incorporated under the present firm name, with a capital of \$2,000.00, Eugene O. Reed being the president, William Reed, Vice-President, and William P. Reed Secretary and Treasurer. Following the death of Eugene O. Reed in 1909, the officers of the company were as follows: William Reed, President; Herbert T. Snell, Vice-President, and William P. Reed, Secretary and Treasurer.

In 1910 a two-story brick building was added to the plant at the corner of Wellington & Clybourn avenues and this plant is now taxed to capacity. The

company does business all over the United States and Canada and has made shipments to South America. The company holds membership in the Illinois Manufacturers Association, Chicago Association of Commerce, and Chicago Credit Men's Association.

WILLIAM REED

William Reed, president of the Eugene O. Reed company was born in Butler county, Ohio, Nov. 19, 1837. In 1860, he engaged in farming near Olney, Richmond county, Illinois, and later leased the Henry Ames farm of five hundred acres in St. Clair County, Illinois, this farm constituting the site of the present city of East St. Louis. In 1867, he returned to Butler County, Ohio, having, in 1865, married at Olney, Miss Maria Denning Hawley, the daughter of Rev. Nelson Hawley, for a long period Pastor of the Methodist Episcopal Church of Olney, Mr. Reed engaged successfully in the general merchandise business at Middletown, Ohio, for a period of twenty-five years, removing in the fall of 1890 to Chicago, where he entered the livery business, but later founded the company of which he is now the head. In 1914, the death of Mrs. Reed occurred at the age of 72 years and within two weeks of the 50th anniversary of her marriage. Of the five children born of this union, Nelson, Rella, Eugene, Frank and William, the later alone survives. Mr. Reed comes from old colonial stock, certain of his ancestors being soldiers in the American Revolution. He is a member of the Society of the Sons of the American Revolution, has been an active supporter of the republican party since its organization, and an active member of the Presbyterian church.

WILLIAM P. REED

William P. Reed, secretary and treasurer of the Eugene O. Reed Company, was born at Middletown, Butler County, Ohio, on the 30th of April, 1881. He received his education in the grammar schools of his native town and Chicago. At the age of 14, he became associated with his brother, Eugene O. and his father, in the manufacture of candy and has been continuously connected with this enterprise since that time. On June 15, 1907, Mr. Reed married Miss Lila H. Snell, daughter of Thomas W. and Nevada Williamson Snell, of Chicago. Mr. Reed has two children, Helen Nevada, born Jan. 30, 1909, and William Thomas, born August 6, 1911. Mr. Reed is a member of Masonic Fraternity and the Society of the Sons of the American Revolution; is republican in politics and holds membership in the Ohio Society, Hamilton Club and the Templar Club, and is actively connected with the Presbyterian Church.

HERBERT T. SNELL

Herbert T. Snell, Vice-President of the Eugene O. Reed Company, born in Chicago, Oct. 6, 1876, and is a son of Thomas W. and Nevada Williamson Snell.

He was educated in the public schools of Chicago. After graduating from the Lake View High School, he entered the employ of the Pioneer Fireproof Construction Company, but six months later, became the founder of the Cycling Club Journal of Chicago of which publication he continued Editor and Manager until the subsidence of the popularity of the bicycle. For one year thereafter, Mr. Snell was employed at the Library Bureau. The following two years he was Traffic Manager for L. Gould & Co. He then became private Secretary to the president of the Moeble Lithographing Company of Brooklyn, N. Y., which concern he later represented in Chicago in the capacity of Assistant Manager of the Chicago branch. Following the death of Eugene O. Reed, he became connected with the Eugene O. Reed Company, being elected to the Vice-Presidency. In March, 1908, Mr. Snell married Miss Lillian Slater of Chicago.

UNION PETROLEUM COMPANY

Few people realize the importance of Petroleum and its products or the phenomenal growth of this industry which today ranks third among Uncle Sam's big enterprises.

Today millions of automobiles, trucks, motor boats, aeroplanes and various types of engines are dependent upon Petroleum for fuel and lubrication. Its by-products and distillates are used by modern industry in the making of roads, in the manufacture of paints, roofing, cordage, medicines and a thousand and one other products. In fact the wheels of Twentieth Century business would abruptly come to a halt if it were not for Old King Petroleum.

In the production of Petroleum from well to refinery, from refinery to the jobber, the dealer and the consumer, there has been established an organization which spans the continent, and in this vast network of business, Chicago from a distributing standpoint, is conceded to be the heart of this great enterprise.

Prominent among the Chicago Oil industries is the Union Petroleum Company, one of the largest independent oil refiners and marketers in this country, with branch offices in the metropolitan centers of the United States, and representation in the principal foreign countries.

The Chicago home of the Union Petroleum Company is located at Western Boulevard and Forty-fourth street, and is conceded to be one of the most modern and efficiently equipped institutions of its kind in the West. It has a prominent frontage of three hundred feet on the Boulevard, made especially attractive by means of unusual lawn and landscape decorations.

The entire plant is of modern fireproof construction, with mechanical equipment of the most improved type, affording every facility for compounding, testing, storage, receiving, shipping and handling of Petroleum in a most speedy and efficient manner—From A Can To A Cargo—Gasoline, Lubricants, Neutrals, White Oils, Cutting Compounds, Illuminating Gas Oils, Cylinder Stocks, Paraffine Oils, Liquid Fuel, Petrolatum, Greases, Paraffine Wax, etc.

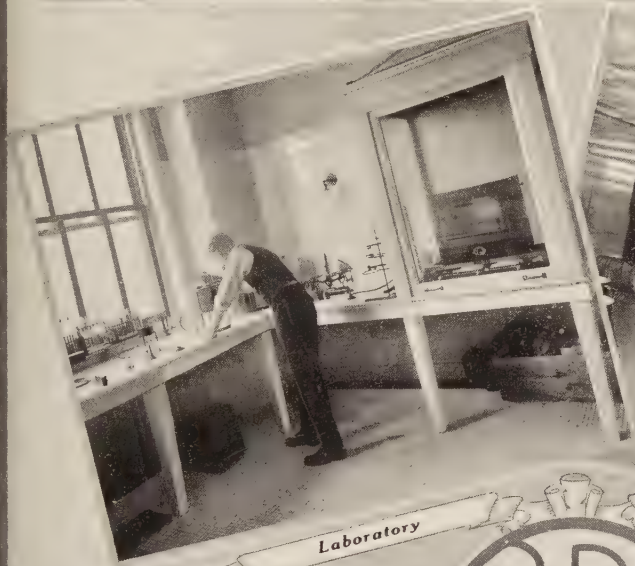
There's storage capacity for one million gallons of lubricating oils alone, to say nothing of the storage provided for over half a million gallons of other Petroleum products.



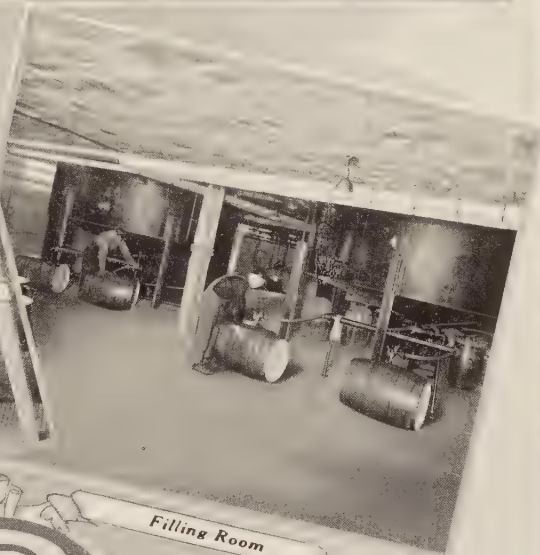
GUY SCOULER
General Manager Union Petroleum Co., Chicago



Union Petroleum Company



Laboratory



Filling Room

**UNION
PETROLEUM
COMPANY**



**CHICAGO
ILLINOIS
U-S-A**

Fleet of Trucks



In the Compounding Department there are three enormous tanks of 10,000 gallons capacity each and six compounding tanks of forty barrel capacity, capable of handling ten car loads of oil daily.

The Cooperage Plant has a capacity of handling a barrel a minute. It is here that every labor saving device is provided for repairing, cleansing, drying and inspecting of the thousands of barrels that are handled daily.

For the comfort and welfare of the employees, the Union Petroleum Company has installed their own kitchen and dining rooms.

The Western Union Telegraph Company and the Postal Telegraph Company maintain special offices on the premises operated exclusively for the Union Petroleum Company's private interests.

The Union Petroleum Company has long been a meeting place for prominent members of the oil fraternity, who have fond recollections of the many dinners and entertainments that are frequently given in their honor by Mr. Guy Scouler, Second Vice-President and General Manager.

Down town offices in the Lytton Building, State street and Jackson Boulevard, are provided for visiting oil men, and for facilitating the work of the sales department.

THE OLD RELIABLE MOTOR TRUCK COMPANY

There has been no one other phase of industrial enterprise in which such remarkable development and progress have been made in the twentieth century as in that pertinent to the automobile and its manifold applications as an adjunct to commerce, business and pleasure. Chicago has not been denied its quota of substantial and important enterprises incidental to such development, and among the important concerns here engaged in the manufacturing of the highest type of motor vehicles the Old Reliable Motor Truck Company holds a position of much relative precedence. This company was organized in February, 1911, and was duly incorporated under the laws of Illinois, with a capital stock of twenty-five thousand dollars. A significant evidence of the unequivocal success that has attended the enterprise is that afforded in the statement that commercial expediency has caused the increase of the capital stock to two hundred thousand dollars, besides which the company has a surplus fund of one hundred and twenty-five thousand dollars. The three progressive men who organized the company and who have since continued its active executive officers are George H. Hollandsworth, who has been president from the time of incorporation; Benjamin P. Dunlap, who has continuously held the dual office of vice-president and treasurer; and George C. Hollandsworth, who has given consecutive service in the office of secretary.

After perfecting its organization and formulating its policies, the Old Reliable Motor Truck Company gathered together a full staff of engineers and mechanics, and the result of the co-operative effort thus entailed is the "Old Reliable" Motor Truck which is of special design and which has many superior features that have been proved through the severest tests to be efficient. The truck has made a reputation in keeping with its name, has many special features too technical to demand consideration in a review of this nature. The frame spring and axle

application of worm-drive are other features that contribute to the definite superiority of the Old Reliable trucks. These trucks are manufactured with capacity varying from one and one-half to five tons with the worm-drive, and the chain-drive trucks are made in sizes respectively of two, three, four, five and seven ton capacity. The company also makes a specialty of manufacturing a seven-ton dump truck and a ten-ton tractor with trailer. The equipment of the fine modern manufacturing plant of this corporation has recently been doubled, and the company is now prepared to produce a complete line of commercial and hydraulic dump trucks, tractor trailers, motor busses, sight-seeing cars, road-sprinklers, and trucks with chassis provision suited to the requirements of fire and the municipal department. The first trucks manufactured by the company are still in daily use and giving effective service, showing that the name "Old Reliable" is fully justified. This truck may consistently be said to be supreme in the heavy-type of motor vehicles, and the products of the Old Reliable plant are used by many of the important industrial and commercial concerns of Chicago and other leading centers.

The factory of the Old Reliable Motor Truck Company is situated at the corner of Michigan boulevard and Thirty-ninth street, and the two-story building, occupying a site two hundred and one hundred and sixty feet in dimensions, is architecturally a credit to the beautiful boulevard on which it is established. The equipment of the plant is of the best type known to modern engineering and mechanical efficiency, and in the establishment employment is given to a force of over one hundred skilled machinists. The output of the factory for the first year, 1911, was only six trucks, and there has been a consecutive expansion of the production each successive year, that for 1917 being placed at two hundred trucks and provision being made for the doubling of this production in 1918. The general offices of the company are established in the Garland Building, at 58 East Washington street. The executives and engineers of the company early adopted a slogan which they have since jealously guarded and zealously maintained,—“The Old Reliable, the one truck worthy of that name.”

We should add also that to care for their constantly increasing Eastern and foreign demand they are opening a branch factory in Long Island City, New York, under a separate incorporation known as the Old Reliable Motor Truck Corporation. The general offices of this concern is established at 527 Fifth avenue, New York, in the Guarantee Loan Building.

THE GARDEN CITY FOUNDRY COMPANY

The well ordered and prosperous foundry business conducted by this company was founded in 1903, under a partnership alliance in which the three principals were Richard J. Cleaveland, Robert C. Barr and Edwin L. Cleaveland. The new firm took over the plant of the Garden City Fan Company, situated on Monroe street, between Clinton and Jefferson streets. In 1906 Edwin L. Cleaveland purchased the interest of Mr. Barr and thereafter the business was conducted under the firm name of Cleaveland & Cleaveland until 1909, the preceding year having been marked by the removal of the plant to 616 West Monroe street,

where was placed in requisition a floor space of seventeen thousand five hundred square feet and where the productive facilities were increased and improved. In 1909 Edwin L. Cleaveland purchased the interest of his cousin, Richard J. Cleaveland, but in the following year the former, an able business man and honored citizen, was stricken with paralysis, which caused his death. Under these conditions his son, Edwin L., Jr., assumed active charge of the business. This progressive young man soon realized the expediency of placing the enterprise on a broader foundation, and in June, 1912, he effected the incorporation of the business under the laws of Illinois and under the present title of the Garden City Foundry Company. The new corporation, which now bases its operations on a capital stock of ten thousand dollars, amplified its field of production and has since conducted a substantial business in the manufacturing of gray-iron and semi-steel castings of the best grade. Edwin L. Cleaveland, Jr., is president of the company and his brother, Grover L. Cleaveland, is its secretary and treasurer.

In 1913 the company purchased forty-five thousand square feet of ground at the junction of Thirty-first street, Archer avenue and Paulina street, and upon this well selected site was erected the present and essentially modern foundry plant, the building being one hundred and twenty-five by one hundred and ten feet in dimensions and being equipped with the best of machinery and accessories, including an electric traveling crane that makes it possible to manufacture and effectively handle the heaviest type of castings. Special attention is given to the manufacturing of gray-iron and semi-steel castings of all kinds and the business has shown a large and rapid growth since the completion of the new plant, which gives capacity for the turning out of twenty-five tons of castings daily. The company is preparing to add new buildings to its plant, to meet the demands of the constantly expanding business, and at the time of this writing the force of employes in the establishment averages one hundred. The company is represented in membership in the Chicago Foundrymen's Association, the Associated Employers of Illinois and the Chicago Employers' Association.

Edwin L. Cleaveland, Jr., president of the Garden City Foundry Company, was born in Chicago, on the 23d of June, 1880, and is a son of the late Edwin L. Cleaveland, who long maintained active association with important industrial activities in this city. Mr. Cleaveland enjoyed the advantages afforded in the Chicago public schools and thereafter took a special course in foundry practice and work in the Armour Institute of Technology. In 1905 he became associated with his father's foundry business and upon the death of the father, in 1910, he assumed full charge of the business, as noted in the foregoing article. Mr. Cleaveland is a member of the Chicago Athletic Association, the Beverly Country Club and the Englewood Club, besides holding membership in the Pendennis Club of Louisville, Kentucky. He is affiliated with the Masonic fraternity.

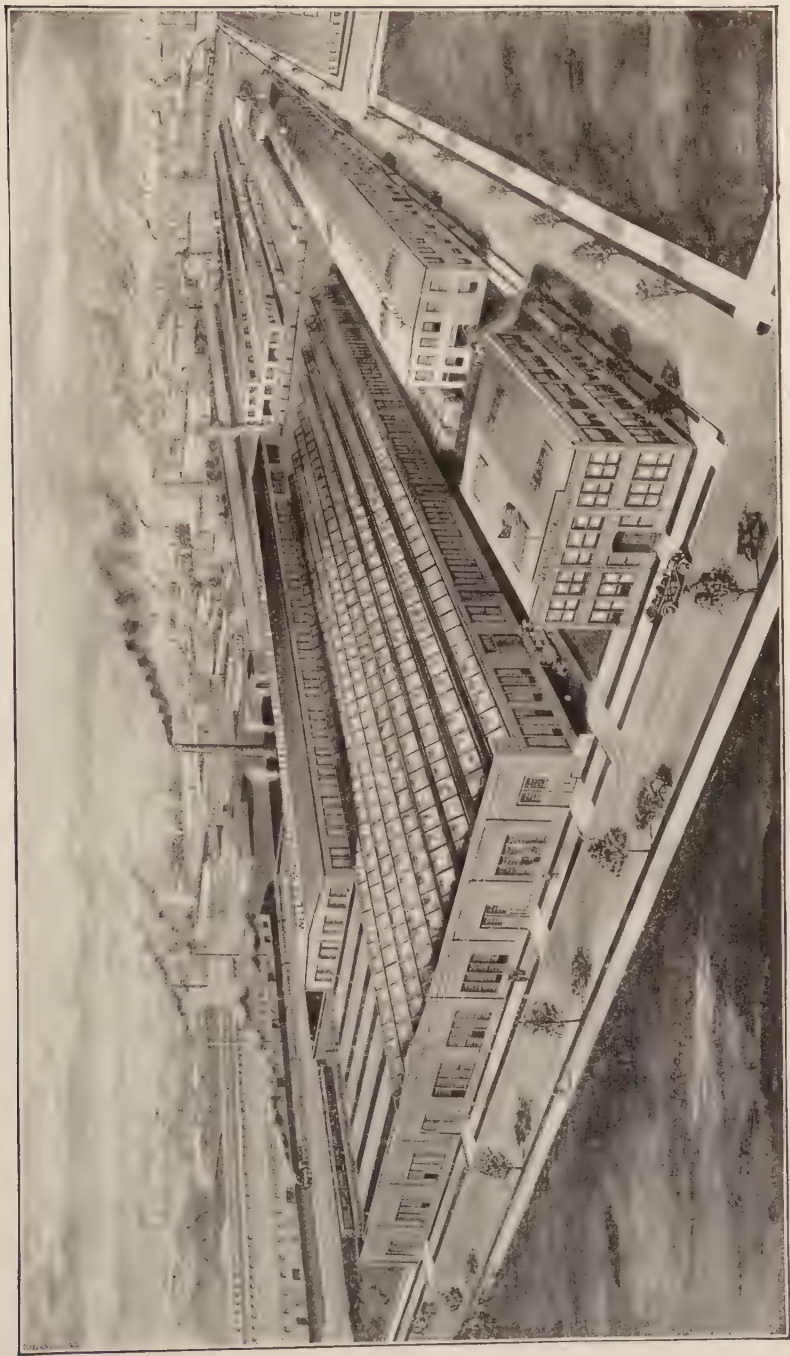
Grover L. Cleaveland, secretary and treasurer of the Garden City Foundry Company, was born in the city of Minneapolis, Minnesota, on the 26th of June, 1885, and his early education was received principally in the public schools of Chicago. After leaving school he gained practical and varied experience through being employed in the great South Chicago plant of the Illinois Steel Company, with which he continued his association until he became one of the principals of the company of which he is now secretary and treasurer. He has excellent tech-

nical knowledge of the foundry business and is well fortified for the executive duties that devolve upon him in his official position. Mr. Cleaveland is affiliated with the Masonic fraternity and is one of the popular young business men of the western metropolis.

THE WELLER MANUFACTURING COMPANY

One of the really great manufacturing concerns that constitute brilliant jewels in the industrial crown of Chicago is that whose title initiates this paragraph. Like many other of the magnificent industrial enterprises of the western metropolis this business had a modest inception, and its growth to its present large and important volume has been the diametrical result of the application of energy, technical skill, progressive policies and marked commercial prescience and integrity. The industry of this company is one of magnitude and one whose operations are based on ample capital and all that thorough care and experience can bestow. The manufacturing plant of the Weller Manufacturing Company is one of the most modern and complete in Chicago and in its entirety represents the ultimate in industrial facilities. The company is recognized as one of the substantial and emphatical progressive manufacturing corporations of Chicago and eminently merits consideration in this publication.

It is neither requisite nor consistent to attempt in this abridged resumé a description or even enumeration of the great variety of products manufactured by the company, but its primary function may be stated as being the production of the best modern type of elevating, conveying and power transmitting machinery, in which special field of industry it has recognized precedence as one of the leading concerns in the west. Briefly may it be stated that in the extensive plant of this corporation are manufactured the following products: Machinery for use in handling material by means of belt conveyors, screw conveyors, pan conveyors, slat conveyors; power transmitting appliances; material for coal-handling plants, sand and gravel washeries, crushed-stone plants, cement works, grain elevators, flour mills, cottonseed-oil mills, linseed-oil mills, starch works, glucose works, breweries, distilleries, malt houses, sugar refineries, phosphate works, tanneries, etc. The company specializes in the manufacturing of labor-saving devices for the economical conveying of material from point to point about manufacturing plants. An extensive sheet-metal department is one of the important adjuncts of the extensive manufactory. The products are used wherever machinery of the kind mentioned is required,—in the United States, Canada, Mexico, South America, Cuba, and, in subordinate degree, in European and other foreign countries. The company maintains branch sales offices in New York city, Baltimore, Salt Lake City, San Francisco, and Birmingham, Alabama. The corporation controls valuable patents on power shovels, trippers, belt conveyor-rolls, and sugar-beet loaders. It is represented in membership in the Illinois Manufacturers' Association, the Chicago Association of Commerce, the Metal Trades Association, and the National Grain Dealers' Association. Operations are now based on a capital stock of one hundred thousand dollars and the executive officers of the company are as here designated: Felix J. Weller, presi-



WELER MANUFACTURING COMPANY

dent; William H. Kaiser, vice-president; H. P. Robbins, secretary; and Arno L. Weller, treasurer.

The business of the Weller Manufacturing Company was founded in 1886, by Felix J. Weller and brother. Mr. Felix J. Weller continued as its executive head during the intervening period of somewhat more than thirty years. He is known as one of Chicago's progressive and representative captains of industry. The original factory was a very modest institution established on Monroe street, near Canal street. The business was incorporated under the present title in the year 1890, and with a capital stock of ten thousand dollars. The first officers of the new corporation were Felix J. Weller, president, and Bruno H. Weller, secretary and treasurer. In 1889 the plant was removed to larger quarters on West North avenue, near Clybourn avenue, where possession was taken of one floor of a four-story building with a frontage of fifty feet. With the substantial expansion of the business more room was demanded from time to time and finally the company occupied the entire building. To meet increasing demands additions to the factory were made from time to time, until practically the entire ground space, one hundred and seventy-five by one hundred and fifty feet in dimensions, was covered by a four-story building.

Realizing the imperative necessity for larger and better accommodations, definite plans were formulated for the construction of a thoroughly modern industrial plant. In consonance with these plans, in the year 1910, the company purchased a tract of land at the corner of Kostner avenue and Cortland street, a site that gave direct switch connection with the tracks of the Chicago, Milwaukee & St. Paul Railroad. On the site was first erected a building for the accommodation of the sheet-metal, bucket and conveyor departments, which were there installed in 1911. Within the year 1915 additional buildings were erected for machine shop, wood-working plant, blacksmith shop, shipping rooms, warehouses, offices, and storage for patterns and castings. In the latter part of that year the entire manufacturing plant was assembled in this new location. The modern fireproof buildings of this plant now occupy about one hundred thousand square feet of space. The main manufacturing buildings, of brick and steel construction, have tile roof of the sawtooth type, so that the best of lighting facilities are supplied. The storehouse, castings storage, shipping, woodworking, pattern and office buildings are of concrete and brick, thoroughly fireproof and equipped with the best modern type of automatic sprinkling system for fire protection. In this extensive manufactory employment is now given to an average force of three hundred and fifty operatives, including a large contingent of highly skilled mechanics. The sheet-metal and structure shops are one hundred and twenty feet wide and two hundred and sixty feet in length, and the machine shop, immediately adjoining, is of approximately the same dimensions. The mechanical equipment throughout is of the latest improved order, including electric traveling cranes for the facile handling of heavy castings and machines. From a previous publication are taken the following pertinent extracts relative to this company:

"The Weller Manufacturing Company certainly has an enviable reputation for the quality of its products, the number of deliveries on schedule and general fair dealing with customers from one end of the country to the other. With the large new plant in operation it was estimated that there would be no difficulty in taking care of a greatly increased business, but it has already been found neces-

sary to make a number of additions to the plant, and more are contemplated in the near future."

As engineers, founders, machinists and sheet-metal workers this company holds a place of distinct priority, and the comprehensive catalogues issued for the accommodation of the trade cover thoroughly all requisite details concerning the great variety of products manufactured. The address of the main office and works of the company is designated as 1820-1856 North Kostner avenue.

IDEAL SPECIALTY COMPANY

From a very modest and original sphere of industrial enterprise this company has developed a substantial and prosperous business in the manufacturing of a varied line of high-grade specialties, including scrap books, invoice books, prescription files, magazine covers, notebook covers, postal-card and photograph albums, memory books, art-collection albums, roll-paper cutters, binders, etc., the effectively equipped plant of the concern being established at 552-54 West Adams street.

In 1901 James L. Hanson, having acquired a controlling interest in an improved scrap book patented by Fred N. Lang, established on Logan Square a small private plant in which to initiate the manufacture of these scrap books. Within a short time the business was removed to larger quarters, at 501 West Diversey boulevard, and within six months so favorable had been the general reception given the new type of scrap book, it was necessary for Mr. Hanson to make arrangements for an entire floor of this building, with an aggregate floor space of fifteen hundred square feet. With true discernment, Mr. Hanson became convinced that a favorable opportunity was offered for the expansion of the scope of this enterprise to include the manufacturing of a diversified line, and accordingly, in 1902, he effected the organization and incorporation of the Ideal Specialty Company. At this juncture not more than four persons were employed in the little factory, and the products were introduced to the trade by Mr. Hanson personally. Continued growth of the business has necessitated four removals of the plant, and the present quarters, with an aggregate floor space of fifteen thousand square feet, is equipped with modern machinery and accessories demanded in connection with the production of the various items, the while the force of employes has been increased to about seventy. Much of the machinery in use was designed especially for the purpose to which it is applied and is covered by patents controlled by the company. At the time of the incorporation of the business the following official corps was formed: Allan B. Bevans, president; James L. Hanson, secretary and treasurer; and Fred N. Lang, vice-president. Mr. Hanson has been distinctly the moving power in the development and upbuilding of the prosperous enterprise and is now president of the company, Fred S. Orth being its vice-president, and Miss May E. Walter its secretary. All products of the Ideal Specialty Company bear the trademark of "Ideal," and the company has the distinction of being the original manufacturer of all of its specialties, which include more than thirty designs of scrap books and more than four hundred designs of albums. The Ideal prescription

file has met with specially favorable reception and is much in demand. The company was the first to develop successfully a white album-pencil. Within the comparatively brief period of its history this progressive corporation has extended its trade not only into the most diverse sections of the United States but also into the Canadian provinces, Cuba and various European countries, the average annual output at the present time including thousands of the Ideal scrapbooks and several hundred thousand photo albums, with an approximately equal demand for the various other products manufactured. The continued expansion of the business is such that the company is certain to demand in the near future appreciably larger quarters for its manufacturing plant.

JAMES L. HANSON

James L. Hanson, president and founder of the Ideal Specialty Company, was born at Racine, Wisconsin, in 1866, and there he was reared and educated, his initial business experience having been in connection with the retail trade. He has been a resident of Chicago since 1887, is a thorough and progressive business man and public-spirited citizen and is affiliated with the Masonic fraternity.

FRED S. ORTH

Fred S. Orth, vice-president of the company, was born at Connellsville, Pa., in 1867, and has been a resident of Chicago since 1900. His business experience has been varied and has developed his resourcefulness, so that he is a valued factor in promoting the interests of the Ideal Specialty Company, of which he has been vice-president since 1910.

MAY E. WALTERS

May E. Walter, secretary of the Ideal Specialty Company, was born in Birmingham, England, in 1885, and in the following year her parents came to the United States and established their home in Chicago. Miss Walters acquired her early education in the public schools of Chicago and supplemented this discipline by a special commercial course through which she admirably fortified herself for business and executive duties. She has been identified with the Ideal Specialty Company since 1903 and has been its secretary since 1908.

MORAN & HASTINGS MANUFACTURING COMPANY

In many important fields of industrial and commercial enterprise art figures as the handmaiden of utility, for human progress has brought in its train an

insistent demand for forms of beauty even in connection with things of common utility. The consistency of the foregoing statements is emphasized in a survey of the artistic productions issued from the large and modern industrial plant of the Moran & Hastings Manufacturing Company, manufacturers of lighting fixtures of the highest grade. The office and sales headquarters of the company are located at 16 and 18 West Washington street, and the concern is one of the leaders in the manufacturing of lighting fixtures in the western metropolis, the functions of the business including also the handling of burners, glassware and various other accessories pertinent to lighting fixtures. The business was established more than a quarter of a century ago and its history has been one of consecutive growth and expansion along normal commercial lines, the products of the well equipped factory being now sold throughout the United States and Canada, while through the medium of catalogues a substantial export trade has been developed, mail orders from this source being an appreciable part of each year's business. The company now gives employment to one hundred persons, besides which an efficient corps of traveling salesmen represent the house through its trade territory in the United States and Canada. The executive officers of the corporation are Franz Brzezowski, who is president, and P. S. Olsen, who is secretary and treasurer.

The firm of Moran & Hastings founded the business now conducted under the above title, in the year 1883, when a modest manufacturing establishment was opened in limited quarters on West Washington street. The enterprise was one of entirely local order under the regime of the original firm, and finally the business was purchased by Frank Horton, who removed the plant to larger and more available quarters, at the corner of Lake and Jefferson streets, where the manufacturing departments are still established, the offices and sales rooms being at 16 and 18 West Washington street and being specially notable for the attractiveness of their appointments and fine display of products. The factory of the company occupies two buildings and affords an aggregate floor space of thirty-five thousand square feet. In addition to manufacturing the finest and most artistic types of lighting fixtures for gas and electricity, as well as andirons and other decorative house specialties, the company handles a wide variety of electrical supplies, electric display fountains, fire-pots, torches, automobile accessories and other articles pertaining to artificial lighting. The annual business has now attained to an average aggregate of more than three hundred thousand dollars, and the products are shipped into the most diverse parts of the United States and Canada, to the Philippine Islands, to Cuba and to various South American countries. The company has status as one of the oldest and most substantial concerns of the kind in the West and has also an inviolable reputation for efficiency of service, for the superiority of products and for close adherence to the highest commercial ethics.

FRANZ BRZECZKOWSKI

Franz Brzezowski, president of the company mentioned in the foregoing paragraphs, was born in Chicago, on the 31st of December, 1883, and has gained

precedence as one of the sterling and representative business men of the younger generation in his native city. After having profited by the advantages of the public schools he initiated his practical business career in the capacity of office boy for the R. Williamson Company, manufacturers of lighting fixtures. He remained with this company eighteen years and within this period won promotion to successive posts of increasing responsibility, his activities having included service as bookkeeper, city salesman and traveling salesman and manager. In March, 1913, he purchased an interest in the business of the Moran & Hastings Manufacturing Company, of which he became vice-president, and in 1915 he and P. S. Olsen purchased Mr. Horton's interest and assumed full control of the business, Mr. Brzezckowski assuming at this time his present office of president of the company and Mr. Olsen the dual office of secretary and treasurer. Under the effective administration of these vigorous and progressive executives, each well fortified in all details of this line of enterprise, the business has shown a splendid growth. Few men in the trade are better known than the popular president of this company, and under his personal supervision have been supplied the lighting fixtures for the homes of many influential families from coast to coast, and it has been invariably true that his customers have always come back to him when in need of further supplies or service in his line. His genial personality is attested by no one thing more effectively than in the fact that those of his clients whose memories and lingual facility have been impotent in recalling his somewhat complex cognomen, have sought effectively to identify him by asking for "the man with the smile."

Mr. Brzezckowski is chairman of the lighting section of the International Rotary Club and one of the influential and popular members of the Chicago Rotary Club, in which he holds membership on the business-promotion committee. He is an appreciative member also of the Chicago Association of Commerce and the Mystic Athletic Club, and he is affiliated with the Masonic fraternity, including the Mystic Shrine. He is fond of all outdoor sports and has exceptional prowess in the vigorous art of swimming. Mr. Brzezckowski resides in the attractive suburb of Ravenswood.

THE KURZ-DOWNEY COMPANY

In the manufacturing of wood packing-boxes this concern ranks as one of the leading factors in this field of industrial enterprise in Chicago, which was organized and incorporated in 1904, with a capital stock of fifty thousand dollars and with officers as here noted: Nicholas I. Downey, president; William F. Kurz, treasurer; and Charles C. Kurz, secretary. The original factory was established on North Branch street, with office at No. 1381 that thoroughfare, and here was instituted the manufacturing of wooden packing boxes, and the factory, storage building and general yard accommodations gave an aggregate ground area of two hundred and twenty-five thousand square feet. The enterprise was initiated with ample capitalistic reinforcement and operations began on a substantial scale, and may be understood when it is stated that in the first year the company

gave employment to one hundred and fifty workmen. The business has continued to be in large measure of local order and has been successful from the start. In 1906 an addition to the factory gave an extra floor space of two hundred and fifteen thousand square feet and with the substantial and consecutive growth of the business the force of employes was gradually increased until it numbered five hundred workmen. In the first year of operations the company utilized ten million feet of lumber in the manufacturing of packing boxes and cases, and the sales aggregated four hundred thousand dollars. For the year 1916 the amount of lumber used was twenty-two million feet and the sales attained to the noteworthy aggregate of approximately eight hundred thousand dollars. The large and well equipped plant is eligibly located and controls the best of shipping facilities, with a direct railway connection and ample provisions for the switching of cars.

In May, 1917, Mr. Downey, the original president of the corporation, sold his interest in the business to his associates, William F. and Charles C. Kurz. Charles C. Kurz is secretary-treasurer of the company; William F. Kurz is president; and the directorate of the corporation includes also Christian Kurz. The concern is one of the largest and strongest of its kind in the west, and statements already given show that it controls a large volume of business and adds its quota to the industrial prestige of Chicago.

WILLIAM F. KURZ

William Fred Kurz, president of the Kurz-Downey Company, was born in Chicago on the 16th of March, 1873, and is a son of Christian and Elizabeth (Schild) Kurz. Mr. Kurz attended the public schools until he had attained to the age of sixteen years, when he took a position in the office of his father, who was long and prominently identified with the ice business in Chicago and concerning whom more specific mention will be made in later paragraphs. After several years of practical experience in connection with his father's substantial business enterprise, William F. Kurz entered the employ of Chapman & Smith, engaged in the bakers' supply business, and he became assistant treasurer of this corporation, with which he continued to be associated until 1904, when he became interested in the Kurz-Downey Company. Of his business career since that time the outline of the history of the company is identified with the Illinois Manufacturers' Association and the Chicago Association of Commerce. Mr. Kurz is affiliated with the Masonic fraternity, including the Mystic Shrine, and holds membership in the Illinois Athletic Association and the Edgewater Golf Club. He is an enthusiast in outdoor sports, and finds in the same his chief medium of recreation. A vigorous and resourceful business man, he gives close attention to the administration of the affairs of the company of which he is president, and he has made an admirable record as one of the progressive captains of industry in his native city.

In 1897 Mr. Kurz wedded Miss Alice Schotsal, of Chicago, and they have one son, Norman, who was born in the year 1904.

CHARLES C. KURZ

The secretary-treasurer of the Kurz-Downey Company was born in Chicago on the 11th of January, 1879, and is the younger of the two brothers who were associated in the founding of the business now conducted under the corporate title noted. He received the advantages of the public schools and also those of the Chicago Manual Training School, in which he was graduated. At the age of sixteen years he became associated with his father's business, and later he became a salesman for the Chapman & Smith Company, engaged in the bakers' supply business. He continued with this concern until 1902, when he became one of the organizers and incorporators of the Sheffield Foundry Company, of which he continued secretary and treasurer until 1904, when he sold his interest in the well established business and became one of the organizers of the Kurz-Downey Company, of which he is serving as secretary. Mr. Kurz has received the Knights Templars degrees in the Masonic fraternity, besides being affiliated also with the Ancient Arabic Order of the Nobles of the Mystic Shrine.

In 1902 was solemnized the marriage of Mr. Kurz to Miss Meta Mueller, of Chicago, and the one child of this union is Walter, who was born in 1908.

CHRISTIAN KURZ

The honored father of the two progressive business men mentioned in the foregoing articles was born in Germany, in 1851, and is now living virtually retired in Chicago. He was a lad of about thirteen years when, in 1864, he came with his widowed mother and the four younger children from Germany to America, the family home being established in Chicago. As the eldest of the children he became the main support of the family when he was but fourteen years old, and bravely and earnestly did he fulfill the duties thus devolving upon him. He applied himself diligently to any kind of honest work he could obtain, and after a period of several years he began to do contract work in house painting, his operations having been initiated in a moderate way. After a number of years of close application and hard work he had saved from his earnings sufficient reserve to justify him in engaging in the retail ice business on a modest scale, in company with his uncle, John Hattenlocher, another uncle, Henry Haegele, having later become interested in the business. Under able management the enterprise prospered and finally a large wholesale and retail ice business was developed, the ice houses of the concern having been established at 724 Halsted street. Mr. Kurz continued the executive head of this business for twenty-one years, achieved independence and definite prosperity, and after the plant and business were sold advantageously to the Knickerbocker Ice Company he retired from active business. He and his wife now live in gracious peace and comfort in their attractive home in Chicago, and they command the respect and confidence of all who know them, both being zealous communicants of the Lutheran church and he having formerly been in active affiliation with the Independent Order of Odd Fellows for many years.

In 1871 was solemnized the marriage of Christian Kurb to Miss Elizabeth Schild, who was born and reared in Chicago, and of the twelve children of this union William F., President of the Kurz Downey Company, is the eldest; Lizzie is the wife of George Meyer, of Chicago; Mary is the wife of Frank Zitzewitz, of this city; Charles C., mentioned in foregoing paragraphs, was the next in order of birth; Bertha is the wife of Charles Hollenbach of Chicago; Frieda wife of Albert Bauer; Christian, Jr., maintains his home in the city of Dayton, Ohio; Amanda is the wife of Charles Retterer, of Chicago; Carrie is the wife of John Basel, of this city; Arthur resides in Dayton, Ohio, as does also Walter; and Alfred is a resident of Watson, Arkansas.

THE STORY OF THE ADDRESSOGRAPH

AN INTERVIEW WITH PRESIDENT J. S. DUNCAN

Just because most of the inventions for which America is famous came from the east no one can say that Yankee ingenuity does not manifest itself west of the Mississippi. Consider the case of the Addressograph, an idea born in the mind of a man in a small office in a small town out on the prairie of western Iowa. The story is interesting, but it had better be told by the man himself. Here it is:

Back in 1892 I was in charge of the books of a large milling concern in Sioux City, Iowa. Among other duties I had to see that a number of flour price lists and bids for grain were sent out each day to a list of people with whom he regularly did business. This addressing was a tedious job. It used to keep one of the young men in the office busy most of the time. Every now and then one of these bids would go astray through a mistake in the address, with the result that other milling companies would get the business. In a year's time these losses amounted to a good deal of money.

As I was a stockholder and director in the company, although the amount of stock I held in those days was necessarily small, I was much annoyed by this loss of business. I felt that there ought to be some way of addressing our cards mechanically, a way that would prevent mistakes and that would save most of the time and effort then wasted by the clerks in writing, over and over again, the same names and addresses.

So I looked for an addressing machine. I searched all the trade papers, and wrote to several office supply houses in Chicago, but to no avail. There was no such thing as a commercial addressing machine on the market; so I let the matter drop for the time being.

Soon after this I left Sioux City to take a position in a country bank in South Dakota. I had not been in the bank long before I again realized the need of an addressing machine—some mechanical means of saving time and preventing mistakes in our routing addressing. Knowing that it was useless to look for a machine, I thought I should try to rig up something that would do the work.

Several plans came to mind, but before I had time to work any of them out I was called to Sioux City to become superintendent of a big oatmeal mill then in course of construction.

Unfortunately, or fortunately for me, before the new mill was completed the panic came on, the project was given up, and I was left without a position.

With as little prospect of getting another position as there was in those days, I began to wonder how I might use my small amount of capital in making a living. The addressing machine idea had been clinging to me persistently, and as I had a good deal of mechanical experience in my work at the mill, I decided to experiment with the hope of producing a device which could be marketed.

My first experiment was pretty crude. I glued the rubber parts of a number of hand stamps onto a big wooden drum. This drum was then revolved from one address to another to do the printing. The work was readable, and there was no chance to make mistakes in the addresses. But the drum only held a few names. How was it to take care of even a small mailing list such as we had at the bank? Clearly the plan was a failure, because it was not practical.

Further trials were not encouraging. At times I tried to convince myself that it was hopeless, that I was wasting my time on a wild idea, and that I had better abandon it and try to get some sort of a position. But "myself" would not be convinced. The conviction that the business world needed a machine to take the place of slow, tiring hand work in routing addressing, and that I could solve the problem if I kept at it, never left me.

One day it occurred to me that the difficulty might be done away with by setting up the addresses in individual rubber type, and linking them in detachable chains of carriable length. I made a model along these lines and showed it to several of my business friends. Most of them thought the idea very clever, but all were skeptical as to its practicability; in fact, several of them laughed at the thing, and told me I was foolish to waste time in trying to commercialize a device of that kind.

But no doubting or ridicule could disturb my conviction. Encouraged by a very good friend, I came to Chicago in the latter part of '93 and rented a small room on Dearborn street where I proposed to begin the manufacture of the Addressograph.

I had brought along from Sioux City twenty-five of the first models which are now called Baby No. 0. About a dozen of these were sold to various concerns throughout the country, among them the Albert Dickenson Seed Co., the F. M. Sinclair Co., of Cedar Rapids; Chapin & Co., of Buffalo and Boston; and the Mergenthaler Linotype Co. Most of them were sold by mail, through a friend of mine, Mr. Blackmer, who might be called the first Addressograph salesman. He ran a mail order business in Chicago. I had bought a good many things from him while with the bank in South Dakota. In fact, we had struck up quite a mail-order friendship, and I thought he would be a good man to see when I arrived in Chicago, to talk over the sales possibilities for my proposition.

As soon as Mr. Blackmer saw the machine he grew very enthusiastic. He had some circulars printed and sent them out to his customers. This "campaign" sold several of the first model Addressographs, so you might say in truth that the Addressograph owed its start to direct mail advertising.

Enthusiastic over our success in selling these first machines, I had a hundred more built. These were arranged so that a foot lever could be attached, thereby leaving both the operator's hands free for feeding the envelopes. It was a much needed improvement, and served greatly to speed up the work of the machine.

While these were being built, Mr. J. B. Hall joined me, in January, 1896. One of the first things he did was to investigate our prospective market. Taking with him one of the machines, he went into the field and called upon men in every line of business where we thought the Addressograph might be used. He went to New York City where he interviewed many of the leading business men of the time. In every case Mr. Hall had the machine right with him. He would screw it onto any table or desk that happened to be handy, demonstrate its operation, and explain the whole idea.

Everywhere comment was favorable, but just to show how little the time and money saving possibilities of the Addressograph were appreciated in those days, almost everyone thought the price much too high. The machine sold for thirty-five dollars, and the address links for four cents apiece. Mr. J. P. Morgan, as might be expected, was not so short-sighted. He realized the possibilities of the idea, and went straight to the heart of the matter by saying, "But that isn't big enough for us. You'll need a bigger machine and more than two lines for the addresses." Mr. Hall returned from his trip feeling that the results had been highly satisfactory. He was firmly convinced that not only was there an immediate market for the Addressograph, but that the future held great possibilities as yet unseen. He was quick to realize the limitations of the hand model, and induced me to build a stronger machine with a permanent foot lever. This we called No. 1. It was much more satisfactory than the other, as it was easier and faster of operation. Many of them are actually in use and doing good work to this day.

But Mr. Hall soon called attention to another defect in our system, the cost of making up and maintaining a list. I solved the problem by devising a machine that would emboss type on metal chain links. This machine we called the Graphotype. An improved Addressograph was of course necessary to use with the metal links, and this was designated No. 2. The Graphotype was not like the ones in use nowadays. The punches and dies, instead of being in a circular die head, were arranged in a straight line, and were operated by means of a keyboard.

Still many of our customers liked the rubber stamp, because it had both capital and small letters, and could be set up in their own offices. To supply this demand, and to improve the work of the old system, I invented the sliding rubber type, which was very much easier to set than the old style. At the same time we brought out a new rubber type Addressograph, called No. 4. It immediately became very popular, and was largely responsible for the early success of the company.

As the number of our users increased they began to take more interest in the applications of the Addressograph to their business. The result of this was the beginning of a demand for attachments to handle special kinds of work; a demand which has never ceased, and which has been responsible for the development of new models ever since. The Addressograph has grown to fulfill each new requirement as it came up. We have always tried to keep abreast of the times, and I believe our efforts have been successful.

In January of 1905 we put out the first machine with a listing attachment. The combination of No. 4 with the lister we called No. 5. It proved very successful in payroll work; in fact, many of them are still in use, and this is also true of the other chain models.



ADDRESSOGRAPH COMPANY

About this time came the loose leaf wave, sweeping over the country. Bound books were done away with. Popular demand insisted that all records must be in loose-leaf or card index form, so that additions, cancellations and corrections could be made easily and quickly. The Addressograph had to conform to the new custom. After much experiment the card index machines were produced, first in metal type plates and then in rubber. This was probably the most important change that has taken place in the history of our product. It greatly increased the efficiency of the system and did much to widen its field.

Now the more extensive use of the Addressograph called for a way of making changes in a list right in the customer's office. The Keyboard Graphotype was not adapted to this purpose because of its size and the fact that an experienced person was needed to operate it. So we developed the Office Graphotype, now known as Model G2, for all capitals only. This machine could easily be operated by anyone, and it solved the problem of list maintenance. To meet the needs of the smaller users, the Hand Graphotype, or G1, was next brought out; and it was followed soon after by the Uplo or G2 Graphotype for upper and lower case type. The product of this machine is a type which is exactly the same as that of a typewriter.

The next demand was for speed. The hand-fed machines were fast enough for ordinary purposes, but there were cases in which a large volume of work or a limited time in which to do the work made necessary a faster method.

Again we were able to meet the demand, by producing the automatic Addressographs; first the A1, in 1910; then the A3, two years later; and finally the A2, a year after that. These machines have been very successful in handling the needs of our larger users.

It might be seen that we had about reached the limit, but such was not the case. It was not long before we realized the existence of a new market, a new field where there was an unquestionable demand for the Addressograph. So far, with few exceptions, the people who had bought the Addressograph were the concerns with large lists or lists that were very frequently addressed. The little fellows with a few hundred names had not felt like spending the money for the foot and motor driven machines. It was clear that we needed something smaller for them.

This problem was not so difficult, and in the winter of 1914 we turned out the first Hand Addressograph. These little machines made a hit almost from the start. They were simple and inexpensive, yet they did the work in fine style. The feature of ribbon printing increased their popularity, and many of them were bought by large companies to use only on form letter work.

But here again, certain large users, who did a great deal of form letter work, found that the hand machine was not fast enough for them. As soon as we realized this fact we got busy on a power driven, ribbon print model. The result of our labors is the F2, which we believe will satisfy anybody's taste in the matter of turning out a uniformly high grade of work.

If we thought the F2 was to be our final product and the end of our endeavors, we were in for another disappointment. Our customers simply will not let us alone. What will be produced next I cannot say but you can be sure that we are not going to let the time get ahead of us. When a new demand seems certainly to exist, we shall be right there with the means of filling it. There was a day

when we did not have facilities with which to back up such a statement, but that day is happily passed, long ago. When our new enterprise was first established, Mr. Hall and I hardly dreamed of such a thing as the Addressograph organization of today. But from past experience and frequent glimpses into the future, we have reason to think that it is still only a beginning.

THE DECORATORS SUPPLY COMPANY

Under this corporate title is conducted one of the unique, successful and definitely important industrial enterprises of the western metropolis, and the large and complete manufacturing plant of the company, at the corners of Archer avenue, Line and Leo streets, is of the most modern and effective equipment. A preliminary idea of the scope and value of the enterprise is given in the statement that this company manufactures on an extensive scale a wide variety of the most artistic decorative accessories for use in connection with architectural work.—interior and exterior ornaments of every description, in cement, composition, plaster and wood. The output of the modern factory includes architectural columns, capitals, brackets, cornices, friezes, mouldings, panels, wood grills, fine woodwork, plastic ceiling and wall decorations, composition ornaments for woodwork, garden furniture, cement fountains, electric fixtures, lamps, window backgrounds, theater ornaments, ticket booths, etc. The office address of the company is 2547 Archer avenue and the present officers of the corporation are as here recorded: Oscar Spindler, president, and William T. Foster, secretary and treasurer.

The business now conducted by the Decorators Supply Company was founded in 1883, by Simon Strahn and Richard C. Foster, who, under copartnership alliance, began operations in a modest way, their original location having been in a building that stood at 49-51 East Van Buren street, now the site of the great department store of Rothschild & Company. In 1886 the business was incorporated under the laws of Illinois and with a capital stock of two thousand dollars, Simon Strahn becoming president of the company and R. C. Foster secretary. At this juncture removal was made to larger quarters, at 158-160 West Van Buren street, where operations were continued until the 2d of August, 1894, when the building was destroyed by fire.

This company was organized primarily for the manufacturing of plastic ornaments for the interior and exterior decoration of buildings, and in the early period the business was obtained principally by the liberal use of sketches, designs and models, which were shown to the builder and which had virtually the effect of compelling the architect and contractor to recognize the value of the products incidental to high-grade decorative work in architectural lines. After its incorporation the company did for the first year a business of about eighteen thousand dollars, and the corps of employes was not in excess of ten persons. In 1907 the company purchased the tract of ground—sixty-five thousand square feet—on which was erected the present modern building utilized, at the juncture of Archer avenue, and Leo and Line streets. The modern office building here erected by the company is a structure of two stories and

basement and is ninety by one hundred feet in lateral dimensions. This building is utilized for the offices and show rooms of the company, and the factory building, one hundred by three hundred feet in dimensions, is likewise a structure of two stories and basement, besides which the plant has in this building its boiler room, dry rooms, etc., in addition to the various manufacturing departments. The company is represented through the central states by an efficient corps of traveling salesmen, but the major part of the trade is obtained through the medium of the handsome catalogues issued by the concern, the business extending into all parts of the Union and a substantial trade having been developed also in the Canadian provinces, in South American countries and in Cuba. The normal annual business aggregates about five hundred thousand dollars, and the present equipment is such as to make possible an output to the value of seven hundred and fifty thousand dollars annually, the force of employes in the factory numbering one hundred and fifty. This progressive industrial concern has done an effective educational work in connection with the introduction and use of its products and is a pioneer in its special field of enterprise in the west. The company has membership representation in the Illinois Manufacturers' Association, the Chicago Association of Commerce, the National Credit Men's Association, and the Chicago Building Contractors' and Employers' Association. The company issues nine very complete and attractive catalogues, that effectively illustrate and describe the various products and that are always to be had by contractors, builders and architects who make application for the same.

In promoting the use of plastic relief ornaments the Decorators Supply Company has achieved a splendid advancement in such art expression in the United States, and from one of its handsome catalogues are taken, with certain elimination and paraphrase, the following pertinent statements:

"The usage of plastic ornaments being well established and very rapidly on the increase in this country, we have taken the initiative to make the usage still more popular, by devoting years of exertion and study and the expenditure of capital to make and bring forward the largest, most diversified in design and size, as well as most artistic number of models, ready to be cast into ornaments, ever brought together by anyone in any country. The forms of the designs underlying the carrying into execution the fine models have been carefully studied and selected to meet the requirements of our designers and decorators, recognizing equally the beauty of the periods or so-called styles of the past, as well as the diversified but not less beautiful forms of the present. Our facilities for furnishing finely executed designs are unsurpassed; our experience for over thirty years in ornamental designing, in Europe and America, furnishes the basis of our possibilities in this direction. We are confident of having overcome all the difficulties, as well as the high prices, formerly connected with the using of this material for ornamenting houses and other buildings, by making it possible for the architects, decorators and contractors to furnish their clients with a high class of decorations, the cost of which does not incur the great expense of new models and is therefore very moderate and easily within the reach of all homebuilders."

By such educational efforts for plastic service as aforesaid illustrates, by persistent, efficient methods of bringing artistic ornamental work close to the

people, has the Decorators Supply Company become the foremost exponent and largest manufacturer of plastic ornamentation in America.

OSCAR SPINDLER

Oscar Spindler, president of the Decorators Supply Company, was born in Modlau, Germany, August 31, 1861, a son of Gustave and Bertha (Friedrich) Spindler. In his native land he received excellent educational advantages, including a course in a trade school and special courses in architecture and art in several European cities, as well as, studying later, with the University of Chicago. In 1887 Mr. Spindler came to the United States and he remained at Utica, New York, until the following year, when he established his permanent home in Chicago, where he achieved in the passing years high reputation as a decorator and designer. He was engaged in the work of his profession in association with others until 1896, having been for a number of years in charge of the decorating department of W. P. Nelson Co. In 1896 he became vice-president of the Decorators Supply Company, and he has continuously been in active charge of the designing and art department of the business, the advancement of which has been largely conserved through his artistic talent and executive ability. He has been president of the company since January 10, 1917.

In politics Mr. Spindler classifies himself as an independent republican, he is a life member of the Chicago Art Institute, holds life membership in the South Shore Country Club, the Illinois Athletic Club, the Palette and Chisel Club, and he is affiliated with the Masonic fraternity. His city residence is at 3976 Lake Park avenue and his summer home is at Lake Catherine, Antioch, Illinois.

In 1888 Mr. Spindler wedded Miss Salome Weigand, of Chicago, and they have two children,—Raymond W. and Ilse A. His son, R. W. Spindler, is now associated with him in the same business.

WILLIAM T. FOSTER

William T. Foster, secretary of the Decorators Supply Company, has gained place as one of the successful and progressive business men of his native city and is a member of a family that was founded in Chicago fully sixty years ago.

William Thomas Foster was born in Chicago on the 12th of January, 1869, a son of Richard C. and Jennie Foster. He is indebted to the public schools of Chicago for his early educational discipline and at the age of sixteen years, in 1885, he entered the employ of the Decorators Supply Company, with all details of the business of which he thoroughly familiarized himself during the ensuing years. He won advancement from time to time and became one of the resourceful factors in the growth and development of the enterprise, his association with which has continued to the present time and the office of secretary and treasurer of the company has been held by him since 1886. His father

was one of the founders of the business and the son learned the trade of manufacturing plastic ornaments for decorative architectural work, his technical facility being such that he was eventually promoted to the position of shop foreman. Later he assumed the general supervision of the office of the company and in this department he has manifested the same energy and progressiveness that characterized his work in the manufacturing department of the business. His administration as secretary and treasurer of the company has inured greatly to the advancement and success of the unique and important industrial enterprise. Mr. Foster holds membership in the Chicago Athletic Association and the South Shore Country Club, and he is affiliated with the Masonic fraternity, including Commandry of Knights Templars and Medinah Temple of the Ancient Arabic Order of the Nobles of the Mystic Shrine.

On the 2d of August, 1892, was solemnized the marriage of Mr. Foster to Miss Helen M. Hanifan, and they have three children,—Elliott E., Helen M., and William T., Jr.

VESTA ACCUMULATOR COMPANY

Through matters of constituent and commercial expediency this company has had diverse changes in executive control and policies and in the scope and field of its productive operations. It has advanced to a position of marked influence and importance in connection with the production of accessories relevant to the automobile industry, has extended its business into the most diverse sections of the United States, as well as into foreign countries and in its sphere of production and commercial enterprise is now one of the foremost concerns in the Union, the well equipped offices and factory of the company occupying the entire four floors of a modern building at the corner of Indiana avenue and Twenty-first street. This building was designed and erected especially for the use of the company and has been occupied by the concern since 1913.

The nucleus around which has been evolved the now large and important business of the Vesta Accumulator Company was that formed by David P. Perry in the year 1897, when he obtained about one thousand square feet of floor space in a building at 53 South Dearborn street, and instituted the manufacturing of electric bicycle-lamps and storage batteries. The business was incorporated in the same year, under the laws of Illinois and with the present title. The original officers of the new corporation were as here noted: E. Davis, president; E. E. Crepin, vice-president; and Charles E. Gregory, secretary and treasurer. In February of the following year, incidental to a certain change in policy, David P. Perry became president of the company. Of this chief executive office he has since continued the incumbent, besides which he is now treasurer of the company also. At the annual meeting of stockholders in 1899 further changes were made in the executive corps, as at that time S. P. Parmly, Jr., became secretary.

With the substantial expansion of the business it finally became essential to secure more ample quarters, and in May, 1902, removal was made to 266 State street, where operations were continued until 1905, when the general office and salesroom were established at 1336 Michigan boulevard, the while enlarged factory facilities were provided at 1521 Wabash avenue. These respective quarters con-

tinued to be occupied by the company until the completion of its present modern and attractive building, on the site of the old Sinai Temple, and possession of the new quarters was taken in 1913. Here has been effected a centralization of all departments of the business, the offices being on the ground floor of the building and the factory and other departments utilizing the other two stories and basement, the aggregate floor space being sixty-four thousand square feet.

With the marvelous development of the automobile industry has come the possibility of upbuilding many important manufacturing and supply concerns relative thereto in a direct way, and thus have been extended to large volume the functions and business of the Vesta Accumulator Company. This company now manufactures a complete line of storage batteries, electric generators and electric lamps for automobiles, and many of the remarkably superior products are covered by patents controlled by the company. A branch is maintained in the city of Detroit, Michigan, and further to expedite the business of the company subsidiary concerns are established in the cities of New York, Boston, Atlanta and St. Louis, Cleveland, Kansas City, Pittsburg, Omaha and Louisville. The products of the Vesta Accumulator Company have a reputation that extends into all parts of the United States and that constitutes one of the most valuable commercial assets of the business. The products are handled mainly through the subsidiary companies and service stations and the company has in its employ an average of somewhat more than two hundred and fifty persons. David P. Perry, as previously stated, is president and treasurer of this vital and progressive industrial corporation; Lee J. Perry is vice-president; and Ward S. Perry is secretary and general manager. The company has membership in the Illinois Manufacturers' Association and the Chicago Auto Trade Association.

DAVID P. PERRY

David P. Perry, founder and president of the Vesta Accumulator Company, was born at Painesville, Ohio, on the 5th of September, 1845, and there he received his youthful education in the public schools of the period. His notably successful business career has had its secure basis in practical application and broad and varied experience. For a long term of years he was president of the Castle Shirt Company, engaged in the manufacturing of shirts, with headquarters in the city of Chicago. While thus engaged he installed for his own convenience an electric plant, and this virtually marked the inception of his definite and productive interest in applied electricity. Finally he became general manager of the Standard Electrical Company, of Chicago, and he was also prominently associated with the Hyde Park Electric Light & Power Company for a number of years. He became in 1897 the founder of the Vesta Accumulator Company, and he has been president of the same since 1898, his ability as an executive and his well directed policies having been the potent force in the development of the now large and prosperous business of this company. Mr. Perry has been a resident of Chicago since 1878 and has at all times maintained a loyal interest in civic affairs and all other things tending to foster the welbeing of the community. His two sons are now his effective coadjutors in the management of the extensive

business of the Vesta Accumulator Company. Ward S. Perry, elder of the two sons, was born in Chicago, on the 6th of October, 1885, and after having completed the curriculum of the public schools he entered the Chicago Manual Training School, in which he was graduated as a member of the class of 1902. His entire business experience has been gained in association with his father's electrical enterprise and he is now secretary and general manager of the Vesta Accumulator Company. Lee J. Perry, the younger son, is vice-president of the company and he likewise takes satisfaction in claiming Chicago as the place of his nativity, his birth having here occurred on the 5th day of January, 1892. After leaving the public schools he attended the Armour Institute of Technology and later he completed a two years' course in electrical engineering, at Cornell University, this technical discipline specially fitting him for the practical and executive duties that devolve upon him as vice-president of the Vesta Accumulator Company, both he and his brother being numbered among the representative and distinctly popular young business men of their native city.

It is specially interesting to record that the Vesta Accumulator Company had the distinction of supplying the equipment for the first pleasure automobile to be provided with electric light through the medium of a storage battery, this electric equipment having been supplied by the Vesta company to the Haynes-Apperson Automobile Company. The company supplied also the electric equipment for the first commercial automobile truck to be supplied with electric-lighting facilities, and this truck was one owned and operated by the great packing house of Swift & Company. Morton G. Parks, who entered the employ of the Vesta Company in 1910, forthwith began to give special attention to the supplying of electrical lighting facilities for commercial vehicles, and primarily as a result of his efforts such facilities are now used by the greater number of automobile trucks in operation in Chicago and other important industrial centers.

WALTER H. FLOOD, B. S.

As a consulting chemical engineer who stands as an authority in this special field, Mr. Flood maintains his business offices at 22 Quincy street and his well equipped laboratories at 3725 Langley avenue. He is a young man of splendid technical ability and is showing excellent initiative and executive talent in the handling of his well established business.

Mr. Flood was born in Chicago, on the 14th of May, 1885, and after having duly profited by the advantages of the public schools he completed a four year's course in the scientific academy of Armour Institute. Thereafter he completed in the same famous institute of technology the regular four years' course in chemical engineering and was graduated as a member of the class of 1906, with the degree of Bachelor of Science. Among the alumni of Armour Institute he holds the distinction of being the only graduate of the institution who is engaged in individual professional practice as a consulting chemical engineer.

After his graduation Mr. Flood found employment as analytical and consulting engineer in the bureau of engineering of the Chicago department of

public works, and during his two years' incumbency of this exacting position he gained wide and valuable experience, especially in testing all coal and metal products before the same were purchased by the municipal government of his native city. He finally resigned his position to accept that of chemist for the Cobb Cocoa Company, of Chicago, and eighteen months later he resigned this position, upon his appointment to that of examiner of chemical formulas, etc., in the United States patent office, Washington, D. C. Here he found experience that still more fully fortified him in his chosen profession and gained a thorough knowledge of chemical-industrial development and advancement both in the United States and foreign countries. After two years of effective service he resigned his position in the government service and returned to Chicago, for the purpose of assuming the position of chief asphalt chemist in the city bureau of street improvement. Two years later he again retired from the municipal service, and at this juncture he entered the employ of John Baker, Jr., one of America's most extensive dealers in asphalt and bituminous products. This alliance was continued until 1913, when Mr. Flood established himself independently in professional work as a consulting chemical engineer, an action which he has had no occasion to regret, as his success has been unequivocal and cumulative. The Flood laboratories occupy the entire floor space in a three story building that has been specially adapted to and equipped for the purpose, and no similar establishment in the United States can show a more thorough and modern equipment of scientific apparatus and accessories, or better facilities for the special experimental work that is done for appreciative clients. In the conducting of the various departments of his laboratories Mr. Flood retains an efficient corps of graduate chemists, and at times the number is increased to meet special emergencies. He continued to be a close student of all technical and practical matters and subjects pertinent to his field or professional service and his broad and varied experience has given him prestige as an authority in chemical engineering. In his laboratories he gives special attention to the solution of problems pertaining to chemistry as involved in industrial enterprise and to the correction of chemical manufacturing processes, besides having provisions for the authoritative analysis of ingredients entering into manufactured products. He might well be termed a chemical efficiency engineer, as he specializes in taking up the investigation of factory routine the devising of improvements in the service,—in processes, compounding of formulas, etc., germane to chemical phases of industrial enterprise. In this connection he has been able to render to manufacturers of food products, as well as to other manufacturers, a service of great practical value, and prominent on the list of his appreciative clients may be mentioned the following: A. P. Callahan & Company, Chicago, (manufacturers of vinegars), Ozell Manufacturing Company, Chicago, (manufacturers of preserves, etc.); Dennon Manufacturing Company, Chicago, (food products); Blatchford Calfmeal Factory, Waukegan, Illinois, and many others.

In the Flood laboratories are the best of facilities for the testing and perfecting of proposed formulas to be applied in connection with manufacturing and also for initial manufacturing of such products for clients, besides selecting and installing of the requisite equipment in the independent factories established by such clients.



WALTER H. FLOOD

Mr. Flood is annually retained by the Chicago South Park Board as expert chemist in the testing of coal, paving materials, oils, and other supplies in which such service is essential, and he holds similar alliance with the Sanitary District of Chicago. He is consulting chemical engineer for the board of county commissioners of Cook county, for which municipal body his laboratories handle the testing and approving of materials entering into road construction work carried forward under the direction of the board, and each successive year, during the road building season, Mr. Flood has a large staff of men working under his personal supervision in connection with such public service. Mr. Flood holds similar official appointments from the cities of Racine, Oconto, Elkhorn and Richland Center, Wisconsin; Mitchell, South Dakota; Galion and Eaton, Ohio; Elkhart, Indiana; Eagle Grove and Webster City, Iowa; Battle Creek, Michigan; and Highland Park, Berwyn and Wilmette, Illinois, and many others. In the handling of work similar to that which he renders to Cook county, Illinois, Mr. Flood has professional contracts also with St. Clair, Kalamazoo and other counties in Michigan and neighboring states. He is known throughout the Union as an expert and authority in road materials. He is an active member of the American Chemical Society, the American Society of Testing Materials, the American Society of Municipal Improvements, the American Road Builders' Association, the Chicago Association of Commerce, and the Rotary Club in his home city. He has made many valuable contributions of scientific and technical order and the same have been published in leading periodicals, especially pertaining to road building.

Mr. Flood has done a large amount of work for manufacturers, along the line of solving problems of waste and salvage, the utilization of waste in the manufacturing of by-products, and problems incidental to the operation of foundries and other metal-working plants. In this special field he has given valued assistance pertinent to the operation of some of the largest steel mills in the United States besides which he has had commissions from the British government in connection with its purchase of war materials in the United States, such as metals and other supplies.

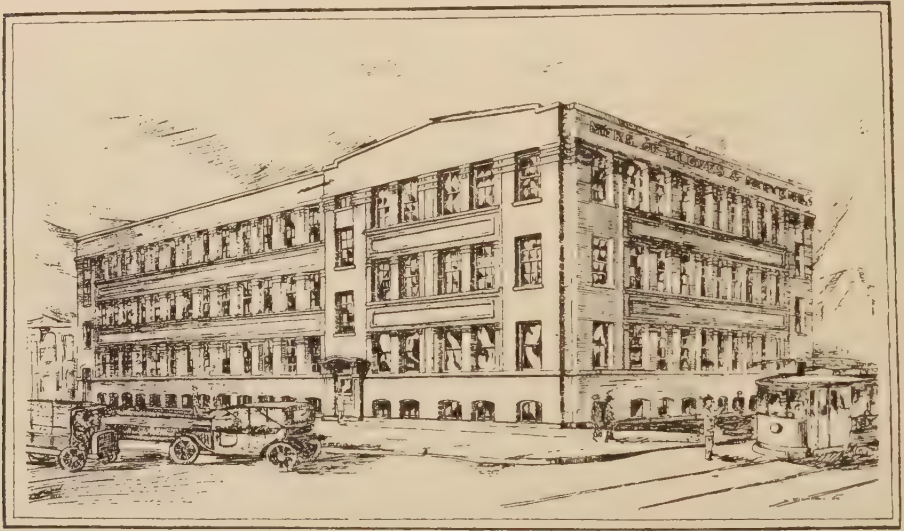
The foregoing context indicates emphatically the consistency of according to Mr. Flood special recognition in this history of the manufacturing and wholesale industries of Chicago, for his talents and his service have direct bearing in their application to widely diversified phases of industrial enterprise.

HOFFMANN BROTHERS & COMPANY

In the manufacturing of leather work gloves this firm holds prestige as being one of the most important concerns established in this special line of industrial enterprise in the west, and in the development of the substantial enterprise have been brought to bear not only technical skill but also the best of initiative and executive ability, the Chicago factory of the firm being established at 4701 Grand avenue and a branch factory being operated at Manitowoc, Wisconsin, while a general eastern sales office is maintained at 346 Broadway, New York city.

In the year 1899 Olaf and Anton R. Hoffmann formed a fraternal business

alliance in which they admitted to partnership Willard Matson, and the new firm of Hoffmann Brothers & Company made no pretentious provisions in establishing its new enterprise, as is evident when it is stated that the original glove factory was installed in a barn at the rear of 1734 Sawyer avenue, the same affording only two hundred and forty square feet of floor space and the corps of employes having consisted of two girls and one boy. Under these most modest conditions, but with the best of technical skill in the work, the members of the firm began the manufacturing of leather gloves for the Chicago jobbing trade. Olaf Hoffmann served as the cutter of the gloves, Anton Hoffmann gave his attention to the sewing and Mr. Matson was assigned the work of selling and finishing, so that each of the principals had a full mede of service devolving upon him. The little factory produced the first year an average out-



HOFFMANN BROTHERS & COMPANY FACTORY

put of fifteen dozen pairs of gloves daily, and the sales for the year aggregated seven thousand dollars. After the lapse of eighteen months the business had become so prosperous as to enable the firm to take possession of its own manufacturing plant, a property, improved with a modest one-story building, having been purchased at 1410 Spaulding avenue. Here the equipment of the factory was amplified and the force of employes augmented. About one and one-half years later a second story was added to the factory building, thus giving an aggregate floor space of twenty-eight hundred square feet, and at this juncture George Hoffmann, father of the brothers, purchased Mr. Matson's interest in the business. With a corps of twenty employes the firm was now able to turn out thirty-five dozen pairs of gloves daily, and within a short time the output was increased to sixty dozen daily. By this time the firm had gained for its products a substantial demand not only in Chicago but also in St. Louis, Milwaukee and St. Paul, the business being handled entirely through jobbers and wholesale dealers.

In 1905 the factory of the firm was entirely destroyed by fire, and so little was the insurance indemnity that a severe financial loss was entailed and it be-

came necessary to make virtually a new start in business. Under these conditions, with determined purpose and unflinching courage, the firm, fortified by high trade reputation, soon placed in operation a small factory in a building at the corner of Bloomingdale road and Nebraska avenue, where requisition was made for three thousand square feet of floor space. In the spring of 1906 an additional space of one thousand square feet was acquired, and later the firm made use of the entire building, the original force of employes after the loss by fire having been six men. Consecutive growth attended the enterprise, however, and by 1912 fifty persons were given steady employment in the factory. With results that gave assurance of a prosperous future, the firm purchased in 1912 property at 4700 West Grand avenue and here erected a three-story and basement building especially designed for its use. In this new and modern plant operations were initiated in January, 1913, and here is utilized an aggregate floor space of twelve thousand eight hundred square feet. The mechanical and general equipment is of the most improved type and in the production of two hundred pairs of high-grade gloves daily there is now retained a force of somewhat more than one hundred operatives.

In 1914 the firm amplified its operations by establishing a department devoted to the dressing and finishing of sheep, horse and split leathers, not only for its own use but also for supplying the trade, and this has become an important feature of the industrial enterprise. In 1902 the firm erected a modern two-story factory building at Manitowoc, Wisconsin, and here, with ten thousand square feet of floor space, operations are principally in the manufacturing of cheaper grade of gloves than those turned out by the Chicago factory. The daily output capacity of the Manitowoc factory is two hundred pairs of gloves and here the force of employes numbers one hundred persons. The average annual sales of the products of the Chicago plants now aggregate three hundred and fifty thousand dollars, and those of the Manitowoc factory about one hundred and fifty thousand dollars. The record of the firm has proved a revelation of efficiency of organization and service, as before intimated, and the business has been developed primarily upon the basis of superiority of products, without recourse to any specific advertising exploitation. The goods of the firm now find sale in all parts of the United States and Canada, as well as in Porto Rico, the Panama canal zone and also in England. The firm has membership in the Chicago Tanners' Association and the Chicago Shoe & Leather Dealers' Association.

GEORGE HOFFMANN

George Hoffmann, who has been since 1902 associated with the business founded by his sons, was born near the city of Copenhagen, Denmark, on the 18th of October, 1841, and in his native land he learned the trade of tanning and also that of glove making, in which lines he became an expert workman. In 1867 he immigrated to the United States and became a pioneer in the manufacturing of leather gloves. He established a factory at Racine, Wisconsin, and after the lapse of several years he made, with the dignity of a full-fledged American citizen, a visit to his native land, where he remained three years and where, in the

meanwhile, was solemnized his marriage to Miss Sophia Hanson, the sons of Olaf and Anton having been born in the land of his fathers. In 1878, accompanied by his wife and infant sons, Mr. Hoffman returned to the United States and established the family home in Chicago, where later the home circle was augmented by the birth of a daughter, Louise, who is now the wife of Richard Tenwick. In Chicago Mr. Hoffman accepted the position of foreman in the Matson Aeppli glove factory, which was then the largest concern of its kind in the United States. Three years later he severed this alliance and engaged in business independently by establishing a small factory on Wood street, where he engaged in the manufacturing of leather gloves and coats, buffalo-robe coats and chamois undergarments. Later he formed a partnership with Jesse Cartwright and they removed the factory to Oakley avenue, where operations were continued under the title of Cartwright & Hoffmann. After four years removal of the plant was made to Courtland street, and here the business was confined exclusively to the manufacturing of gloves. In 1893 Mr. Hoffmann sold his interest in the business and organized the firm of Aeppli & Hoffmann, which established a well equipped glove factory at the corner of Bloomingdale and Ballou avenues. With this enterprise Mr. Hoffmann continued his association until he disposed of his interest for the purpose of becoming a partner in the business established by his sons, under the firm name of Hoffmann Brothers & Company. Though he still retains his interest in this business he is now living virtually retired, Anton R. Hoffmann being the active executive head of the business and Olaf Hoffmann being the general superintendent of the factories.

OLAF HOFFMANN

Olaf Hoffmann was born in Denmark on the 12th of March, 1877, and was an infant at the time of the family removal to America. He attended the public schools of Chicago in his boyhood and youth and in the meanwhile, when a lad of fourteen years, he initiated his apprenticeship in the glove factory of his father's firm. He continued to be thus associated with his father's business until he was nearly twenty-two years of age, and he then formed a partnership with his brother and founded the present firm of Hoffmann Brothers & Company, as explained in the preceding article descriptive of the firm and its business.

Mr. Hoffmann is a supporter of the republican party in national politics but in local affairs he is independent of partisan lines. He is a vigorous and successful man who has achieved success through his own efforts and as a citizen is essentially loyal and public-spirited.

September 22, 1901, recorded the marriage of Mr. Hoffmann to Miss Metta Peterson, and they have one child, George, who was born April 22, 1905.

ANTON R. HOFFMANN

Anton R. Hoffmann, the other executive member of the firm of Hoffmann Brothers & Company, was born at Copenhagen, Denmark, on the 30th of March,

1878, and was reared and educated in Chicago, where he received the advantages of the public schools. At the age of fifteen years he began an apprenticeship to the trades of machinist and glovemaking, and his ability in these lines has been potent in insuring the success of the important industrial enterprise with which he is now identified, as noted in a preceding article. He has devised and held progressive policies in the management of the firm's business and has made for himself a secure place as one of the representative captains of industry in Chicago.

On the 16th of May, 1906, was solemnized the marriage of Mr. Hoffmann to Miss Eulalia Seaman, who was born in the city of Des Moines, Iowa, and they have two children,—Eulalia Lourice, born January 8, 1905, and Anton Richard, Jr., born December 24, 1913.

THE CENTURY RUBBER COMPANY

Under this corporate title has been built up one of the prosperous and important industrial enterprises of its kind in Chicago, and under the present control and direction the business has greatly expanded in scope, the output of the well equipped plant including automobile tires, rubber soles and heels for shoes and rubber hoof pads for horses. The business was founded in March 1912 by Joseph and Frank Netzel, and the two brothers began operations under the title of the Netzel Rubber Company. The first factory, one of very modest order, was situated on Huron street near Wells street, where was utilized two thousand square feet of floor space and where was initiated the manufacturing of rubber automobile accessories. In 1913 the brothers purchased property at 1346 Rawson street and there erected a modern brick factory that was specially designed and equipped for the accommodation of their business, the building being three stories in height and having had an original floor space of fifteen thousand square feet. As a matter of commercial expediency the business was finally incorporated under the laws of Illinois and with a capital stock of thirty thousand dollars, Joseph Netzel becoming president and Frank Netzel secretary of the corporation and the present title of Century Rubber Company having been adopted at this time. The enterprise was successful from the beginning and under the original management was continued until March, 1916, when the Netzel brothers sold their interests to Charles J. and Henry T. Venn. The Venn brothers immediately formulated definite plans and policies for materially increasing the facilities and production of the factory, Charles J. becoming president and Henry T. secretary of the company,—offices of which they have since continued the vigorous and resourceful incumbents. To the original factory they forthwith added an annex of two stories, and this addition gave nearly five thousand square feet more of available floor space. The brothers then followed out their plans with characteristic vigor and discrimination, by instituting the manufacturing of automobile tires and inner tubes, rubber hoof pads, rubber soles and heels and other mechanical rubber goods. Perfecting a thorough and well ordered organization of the business, the new management soon gave a distinct impetus to the enterprise, and rapidly it expanded in scope and importance, with Charles J. Venn as the executive head

and general manager. The sales of the products of the factory have materially increased and the daily output from the factory has now attained to an average of four hundred automobile tires, eight hundred inner tubes, twelve thousand pair of rubber heels, four thousand rubber soles and fifteen thousand sets of rubber hoof-pads. This daily production represents and approximate valuation of eighty thousand dollars each month, and the products are now in demand in all sections of the Union, their superiority constituting the company's most effective medium of advertising. Three traveling representatives are employed by the company and branch headquarters are maintained in all of the larger cities that figure as important distributing centers in the United States.

CHARLES J. VENN

The president of the Century Rubber Company has gained for himself secure vantage-place as one of the progressive and substantial business men of the younger generation in his native city, his birth having occurred in Chicago on the 15th of September, 1885, and his father, Dr. Charles Venn, having been for fifty years engaged in the practice of his profession in this city, as one of the distinguished physicians and surgeons of the western metropolis.

Charles J. Venn continued his studies in the Chicago public schools until he had completed the curriculum of the high school and thereafter he entered the University of Feldkirk, Austria, in which he was graduated as a member of the class of 1900. Upon his return to Chicago he continued his educational work by entering the University of Illinois, at Champaign, in which he was graduated in 1903, with the degree in Chemistry. For the ensuing four years he was engaged in the retail drug business in Chicago, but this field of enterprise did not offer opportunities that satisfied his ambitious and energetic nature, with the result that at the expiration of the period noted he sold his drug business and founded the Venn-Severn Machine Company, the plant of which is situated at 1317 West North avenue. Of this company, which is engaged in the manufacture of oil engines, he is still one of the directors, and his brother Theodore Venn, is president. The next important step taken by Mr. Venn in connection with industrial activities in Chicago was that in which he became associated with his brother Henry T. in purchasing the plant and business of the Century Rubber Company, of which he has since been the president and general manager and which under his regime has gained specially high reputation and marked success in the manufacturing of automobile tires and inner tubes of recognized superiority.

THE CENTRAL SCIENTIFIC COMPANY

The story of Chicago's manufactures contains in sequence practically the whole history of the city's growth and greatness, and through its manufacturing interests more than any other medium the city's trade and wealth have been developed, the while the city has extended her fostering influences to uphold every

legitimate new business enterprise that has here been established. Chicago is essentially a city of large views and large achievement, and here are to be found many industrial and commercial institutions that are unrivalled in scope and importance by any others of similar order in the entire world. This is significantly true of the company whose title initiates this paragraph, and the concern is now the largest and most important of its kind in the United States. The company is engaged in the manufacturing of scientific laboratory instruments and devices for utilization in connection with educational and industrial work, and its products are now used in public and technical schools, U. S. Experiment Stations and research laboratories, colleges and universities in all parts of the United States, as well as in all other of the advanced nations of the world. The recognized superiority of the instruments and scientific accessories manufactured by this corporation has caused the same to be used by the United States



CENTRAL SCIENTIFIC COMPANY

government in experimental and research work of various kinds. Published governmental bulletins designate the actual results obtained by the use of the particular instruments designed, tested and supplied by the Central Scientific Company. Such was the case in the utilization of instruments supplied by the company to the United States agricultural department for perfecting the testing of grain to determine the amount of moisture, this being commonly known as the moisture test. The instruments of this company are used in Egypt, France, Germany and England, and the concern manufactures also a line of special pharmaceutical and chemical appliances used in laboratories, as well as meteorological, biological, zoological, oil, asphalt, cement and soap-testing appliances and delicate appurtenances and appliances utilized in connection with wireless telegraphy and telephony.

The finely equipped manufacturing establishment of the Central Scientific Company is at 460 East Ohio street, and the business was incorporated under the laws of Illinois in the year 1900, the officers of the company being as here noted: Alexander H. McConnell, president and treasurer; Herbert C. Arms, vice-president; and John M. Robert, secretary. The Chicago institution is virtually the offspring of the Central School Supply Company, of Chicago, Illinois, of which latter Mr. McConnell had been a department manager. The new company insti-

tuted operations with the effective co-operation of the parent organization, which was one of the pioneer concerns in this line of enterprise in Chicago as well as in the entire west. The Central Scientific Company began operations on a modest scale, the original factory having been on Canal street, in the warehouse building utilized by the Central School Supply Company. At the beginning only one thousand square feet of floor space were demanded for the accommodation of the new institution, and the corps of employes was limited to one machinist, one stenographer and one errand boy. After the expiration of two years the company found that its business had so increased as to necessitate the securing of more ample quarters, and removal was made to the corner of Wabash avenue and Congress street. Only a year later removal was made to the corner of Austin avenue and Orleans street, where space was available for the accommodation of the constantly expanding business an aggregate floor space of six thousand square feet, increasing finally to fifty thousand square feet in 1915. In 1916 the company removed to its present finely equipped and thoroughly modern quarters at 460 East Ohio street, where they secured one hundred thousand square feet of floor space. In May of 1917 this was increased to one hundred and fifty thousand square feet, and the force of employes was increased to two hundred and fifty persons. The splendid development of the unique and important industrial, commercial and educational enterprise has been marked by thorough systemization of all departments, and the Central Scientific Company has proved a valuable addition to the manifold industrial interests of the western metropolis.

ALEXANDER H. McCONNELL

The vigorous and progressive president of the Central Scientific Company, the history of which is outlined above, was born and reared in Chicago, the date of his nativity having been December 17, 1876. His parents, Alexander and Mary B. (Noble) McConnell, were born in Philadelphia, Pennsylvania, and established their home in Chicago in 1875, Mr. McConnell here becoming manager in the publishing establishment of the Fleming H. Revell Company.

Alexander H. McConnell continued his studies in the public schools until he had completed the curriculum of the high school and then entered Northwestern University, in which he was a member of the class of 1901. He initiated his business career as an employe of the Central School Supply Company and incidentally here developed the deep interest in the manufacturing of scientific educational and laboratory appliances that led to the eventual organization of the company of which he is now president, he having been the incumbent of this chief executive office since 1903. His company is represented in membership in the Chicago Association of Commerce and the North Central Improvement Association. In politics Mr. McConnell is aligned with the republican party, he is a member of the Evanston Club, he has attained to high amateur distinction as a tennis expert, and he finds through this medium his chief recreation during the summer seasons. Both he and his wife are members of the Presbyterian church and the family home is in the beautiful suburban city of Evanston.

On the 9th of April, 1901, was solemnized the marriage of Mr. McConnell to Miss Lucene S. Loba, daughter of Rev. Jean F. Loba, who was for fifteen years pastor of the First Congregational church of Evanston and who is now deceased. Mr. and Mrs. McConnell have three children,—Mary Elizabeth, Jean Loba, and Lucene Howard.

HERBERT C. ARMS

In a preceding article has been given adequate description of the Central Scientific Company, and at this juncture is consistently made more specific mention of its vice-president, Herbert C. Arms, who is one of the progressive business men of the western metropolis.

Mr. Arms was born in the city of Dubuque, Iowa, on the 3d of March, 1871, and is a son of Charles H. and Aurora (Clarke) Arms, who established the family home in Chicago in 1880. Charles H. Arms, a man of fine intellectual and scientific attainments, here became a pioneer in the manufacturing of scientific instruments and appliances specially designed for use in educational work. He was graduated at Amherst College and his wife at Mount Holyoke College, Massachusetts. Prior to coming to Chicago Mr. Arms had been actively identified with the lumber business in Dubuque. In Chicago he became identified with the W. A. Olmsted Company, and later founded the W. A. Olmsted Scientific Company; this company supplied the Chicago high schools with their original equipment of scientific apparatus. Mr. Arms met a tragic death in the fire that caused the destruction of the entire plant of the Olmsted Company, in 1898. He was born in 1840, and his wife, who was born in 1844, survived him by fifteen years, her death having occurred in 1913.

Herbert C. Arms was nine years of age at the time of the family removal to Chicago and after completing the curriculum of the Hyde Park high school he entered the University of Illinois, from which he was graduated as a member of the class of 1895 and from which he received the degree of Bachelor of Science. For three years thereafter he gave his attention to architectural work, principally in connection with the building of railway stations and other buildings for the Illinois Central Railroad. During his school and university vacations he had assisted in the office and factory of his father's company and had become deeply interested in the study of scientific appliances. Thus after three years of service as an architect for the Illinois Central Railroad Company he assumed a position with the Chicago Laboratory Supply Company, of which he became general manager and with which he continued his connection until January 1, 1904, when he assumed his present office, that of vice-president of the Central Scientific Company, in the development of whose business he has wielded much influence.

Mr. Arms holds membership in the University Club of Chicago, the Illini Club, the Ouilmette Country and Skokie Country Clubs.

June 20, 1900, recorded the marriage of Mr. Arms to Miss Elizabeth W. Gregg, who was born at Charleston, South Carolina, her grandfather, William Gregg having been an extensive planter and slaveholder in South Carolina and

having been one of the signers of the secession agreement which threw that state into the Southern Confederacy at the time of the Civil war. Mr. and Mrs. Joseph Gregg, parents of Mrs. Arms, now maintain their home in the city of Atlanta, Georgia. Mr. and Mrs. Arms have one child, Eloise, born in 1904.

JOHN M. ROBERTS

He whose name initiates this paragraph is secretary of the Central Scientific Company, of which mention is made in a preceding context.

Mr. Roberts was born at Warrensburg, Missouri, on the 3d of April, 1871, and is a son of James M. and Mary (Marshall) Roberts, the latter a descendant of the pioneer family in whose honor the city of Marshall, Missouri, was named. The higher academic education of John M. Roberts was gained in Missouri Valley College and in the University of Chicago. For five years he was a teacher in his native state. In 1904 he returned to Chicago, where he has since been secretary of the Central Scientific Company.

In a social way he is a member of the University Club of Chicago.

The 1st of January, 1896, recorded the marriage of Mr. Roberts to Miss Eva Poteet, daughter of Samuel Poteet, of Kansas City, Missouri, and the one child of this union is a daughter, Caroline.

STURGES & BURN MFG. CO.

In the compilation of this publication it is a matter of special satisfaction to accord recognition to those large and important industrial enterprises for which may be claimed pioneer honors and distinction, and this is significantly true in the case of the progressive and long established corporation whose title initiates this paragraph, the company standing as one of America's foremost concerns in the manufacturing of milk cans and other dairy specialties. The extensive and thoroughly modern manufacturing plant of this company was established at Harrison, Green and Peoria streets, with general offices at 508 South Green street. In 1912-13 a new plant was erected at Bellwood, Illinois, at the intersection of the C. & N. W. R. R. and the Indiana Harbor R. R., which latter connects with all railroad lines entering Chicago, so that the shipping facilities of the fine industrial institutions are unexcelled. Of the new plant of the company the following consistent statements have been written: "The new plant is the most modern, most thoroughly equipped and most scientifically arranged of all similar manufactories in the country. It is constructed entirely of reinforced concrete and is absolutely fireproof."

It has already been intimated that the Sturges & Burn Mfg. Co. is entitled to pioneer prestige in connection with the industrial history of Chicago, the inception of the enterprise dating back to the year 1864, when Frank Sturges, a son of one of the honored and influential pioneers of Chicago, became associated with Thomas S. Dickerson and formed the firm of Dickerson, Sturges & Company,

wholesale dealers in metals and importers of tin plate and sheet iron, with headquarters at 199-201 Randolph street. In 1865 Mr. Dickerson retired from the firm and thereafter the enterprise was continued under the title of Frank Sturges & Company, Oliver H. Lee, father-in-law of Mr. Sturges, having been associated with the business. Shortly before the great Chicago fire of 1871 the firm name was changed to F. Sturges & Company. Incidental to the great fire the losses of the firm were such as to cause temporary financial embarrassment, "but the efficient administration of Mr. Sturges soon brought about a large increase in the business, the volume of which grew to much larger proportion than before the catastrophe." In 1875 the firm was recognized and incorporated under the title of the Chicago Stamping Company, and Mr. Sturges continued as president of this company and its successor, the present Sturges & Burn Mfg Co., until his death, on the 23d of January, 1917. In the meanwhile the province of the business had been radically changed, to include and make of primary importance the manufacturing of milk cans and other dairy specialties. From the original location removal had been made to Monroe street near LaSalle street and here the entire warehouse, store and offices were destroyed in the ever memorable Chicago fire of 1871. In 1865 Frank Sturges & Company erected a three-story building at the corner of Harrison and Peoria streets, and it was in this establishment that the first milk can was manufactured by the concern. The present extensive plant of the company, in Bellwood, occupies twenty acres of ground, and here employment is given to an average force of six hundred persons, the majority of whom are skilled mechanics. The trade of the company extends into all parts of the United States and Canada, into European countries, including Russia, as well as into Australia and various South American countries. In New York city is established a branch in which is carried a full stock of the company products, and similar provision is made in many other of the leading cities of the Union.

FRANK STURGES

Consistency demands that in connection with the foregoing review of the history of the Sturges & Burn Mfg. Co. be erected a brief memorial tribute to the late Frank Sturges, who was one of the founders of the great industrial enterprise and who was president of the company from the time of its incorporation until his death, which occurred on the 23d of January, 1917.

Mr. Sturges was born at Putnam, Ohio, on the 10th of October, 1842, and was indebted to the schools of the Buckeye state for his early educational discipline. He was a youth of eighteen years at the time of the family removal to Chicago, and his father, Solomon Sturges, became one of the pioneer bankers and honored and influential citizens of the future metropolis, as a member of the banking firm of Sturges, Buckingham & Company, and later as head of the banking house of Solomon Sturges & Sons. Frank Sturges became identified with the banking business of Solomon Sturges & Sons at the time of its organization, in 1860, and upon attaining to his legal majority, in 1863, he became one of the partners in the business, as originally provided by his father. At this juncture the title of the firm, owing to the death of the father, was changed to Solomon

Sturges' Sons, and about a year later he sold his interest in the business to his brothers and became associated with Thomas S. Dickerson in establishing the firm of Dickerson, Sturges & Company, of which the present Sturges & Burn Mfg. Co. is the lineal successor. Concerning the subsequent business career of Mr. Sturges adequate data is given in the article descriptive of the company, in foregoing paragraphs. He was one of the strong, noble and progressive business men and substantial and influential citizens of Chicago for many years, and was a veteran exponent of industrial enterprise in the western metropolis at the time of his demise. Mr. Sturges was liberal and public-spirited in his civic attitude, was a Republican in politics, did much to further the commercial prestige of Chicago and commanded the unqualified confidence and good will of all who knew him. He was a popular member of many representative social and civic organizations, including the Chicago Athletic Association.

On the 23d of June, 1864, was solemnized the marriage of Mr. Sturges to Miss Lillie Lee, daughter of Oliver Harrison Lee, and she survives him, the family home having been for more than a quarter of a century maintained in the beautiful suburb of Elmhurst. Mr. Sturges is survived by one son and two daughters,—Lee, who is now president of the Sturges & Burn Mfg. Co., and Misses Jeanette Lee and Lucy Hale Sturges.

LEE STURGES

Lee Sturges, President, Sturges & Burn Mfg. Co., is a native of Chicago, born August 13th, 1865, a son of Frank and Lillie (Lee) Sturges.

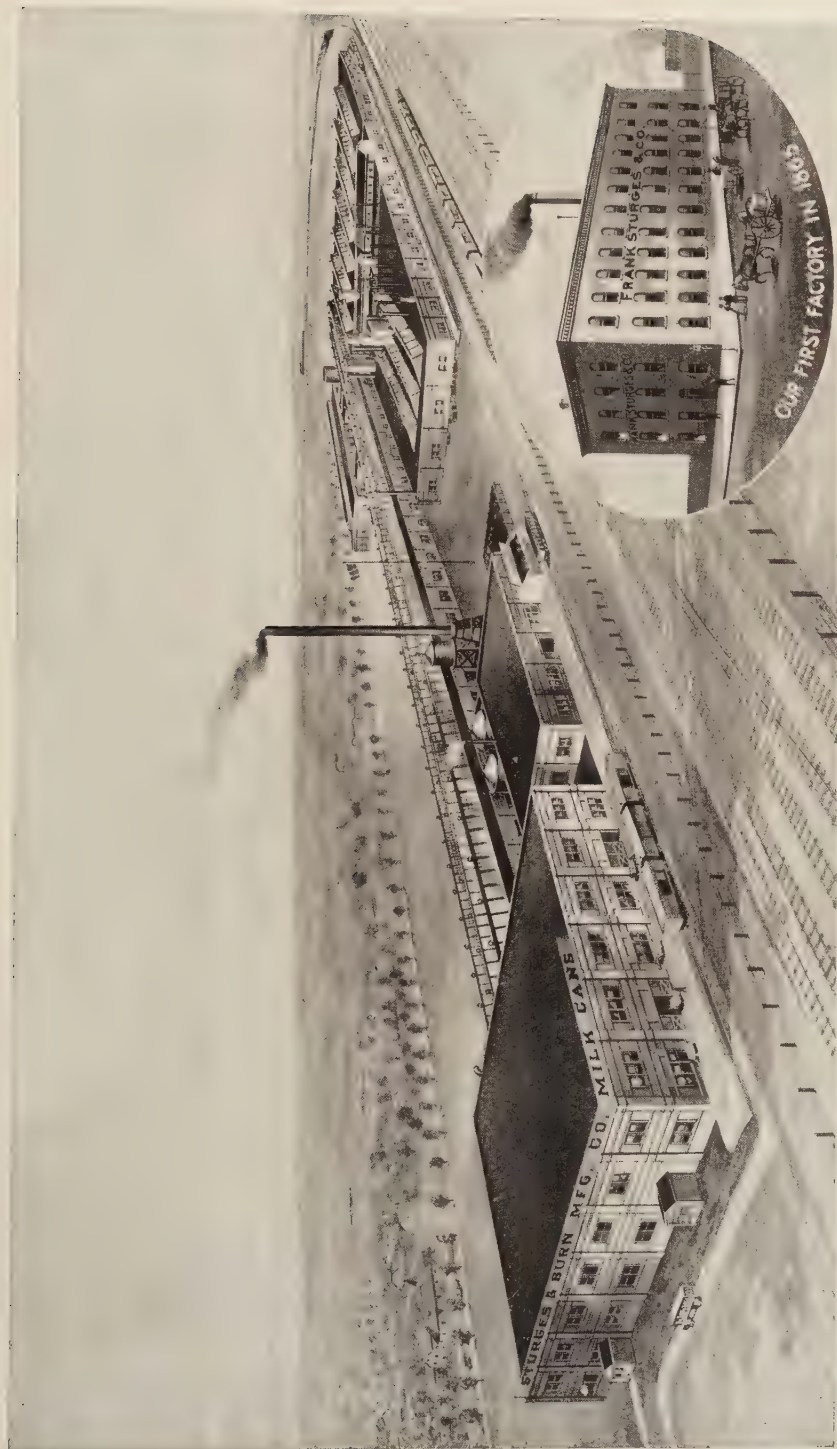
He enjoyed the educational advantages afforded by the public schools of his native city, supplementing this training by a course of study at Markham Academy, Milwaukee, Wisconsin, and also at the Pennsylvania Academy of Fine Arts, Philadelphia.

He began his active business career in 1887, with the Chicago Stamping Company and, in 1900, assisted in organizing the Sturges & Burn Mfg. Co., becoming vice-president and treasurer of the company and holding these offices until 1917, when he became its president. He has always managed the manufacturing end of the business and many of the new devices and equipment developed and adopted by the company are the result of his inventive genius and ability.

Mr. Sturges is also vice-president of the English Mfg. Co., of Antigo, Wisconsin, and president of the Elmhurst Spring Water Company, of Elmhurst, Ill.

He married, in 1890, Miss Mary Allen Sullivant, daughter of Col. Joseph M. Sullivant, an extensive ranch owner in Morris county, Kansas, and they have three children—Mrs. Mary Sturges Thomas; Frank Sturges, and Lucy H. Sturges. The family residence is maintained at Elmhurst, Ill.

Mr. Sturges has always taken a lively interest in fine arts and is a member of the Chicago Society of Etchers, and is a governing member of the Chicago Art Institute. In political faith he adheres to the principles of the Republican party and in social affairs, holds membership in the Chicago Athletic Association, the Cliff Dwellers, the Glen Oak Country Club and the Rocky Mountain Club, of New York city.



STURGES & BURN MFG. CO.

WILLIAM H. BURN

William H. Burn has been a resourceful force in connection with the development of the extensive industrial and commercial enterprise represented by the Sturges & Burn Mfg. Co., of which description has already been given in a preceding context, his association with the company having been initiated in 1893, when he became its secretary and a director.

William Heber Burn was born in the city of Toronto, Canada, March 27, 1860, a son of William David and Matilda (Wallace) Burn. In his native city he received the advantages of Upper Canada College, and in 1880 he initiated his active association with business by taking a minor position in the employ of James Robertson & Company, wholesale metal merchants and manufacturers. With the Toronto concern he continued his alliance until 1889, when he became secretary of the Buhl Stamping Company, in the city of Detroit, Michigan. This incumbency was retained by him until 1893, when he came to Chicago and assumed the office of secretary and later vice-president of the Sturges & Burn Mfg. Co. He has since given close attention to the general administrative affairs of this important corporation and has gained secure status as one of Chicago's representative business men.

In politics Mr. Burn is aligned with the Republican party, and he and his wife are communicants of the Presbyterian church. Mr. Burn has been a popular and influential member of the Illinois Manufacturers' Association and has served as vice-president and director of the same.

On the 4th of September, 1884, was solemnized the marriage of Mr. Burn to Miss Mary Conkling Stockton, of Rockford, Illinois, and they have two daughters,—Armonde and Marguerite.

VARIETY MANUFACTURING COMPANY

An extensive and well ordered industrial enterprise is that controlled by this company, in the manufacturing of steel fire-doors, steel rolling shutters, art metal doors, "Kal-O-Mine" doors and other similar specialties of the highest grade. The products of the large and well equipped manufacturing plant, located at 2958 Carroll avenue, are now shipped into the most diverse sections of the United States and set a definite standard of superiority in their specific line.

The business conducted by the Variety Manufacturing Company was founded in 1889, by James H. Gormley, who is now president of the Bullard & Gormley Company, wholesale hardware dealers, and Edgar G. Barrett, now vice-president of the Union Bag & Paper Company. These two principals did not assume active supervision of the new business enterprise but employed for the purpose a capable general manager, under whose direction the business was conducted until 1893. At this time the capital stock of the company was placed in the hands of the trustee, Mr. Gormley, who was treasurer of the corporation, and the plant was turned over for operation to Wainwright B. Gervais and William A. Cross, who assumed the active control and management, Mr. Gervais signing

personal notes for the value of the plant, with the provision for the release of said notes when individually liquidated. In due course of time the plant and business thus came into the possession of Mr. Gervais and his associates, and in 1903 he was elected president of the company, William A. Cross becoming treasurer and William H. Barry secretary. In 1905 the interest of Mr. Cross was purchased by Messrs. Gervais, Barry and Edward L. Beckerley, who entered the business at this time and was made secretary of the company, Mr. Gervais continuing as president and Mr. Barry becoming treasurer. In the same year the plant was removed to the site of the present manufactory, and in the original building here occupied operations were successfully continued until 1910, when the plant was destroyed by fire. Within a few days after this disaster the company acquired title to the land on which the factory had been located and instituted the erection of a modern industrial building, three stories in height and one hundred and sixty by one hundred and ten feet in dimensions. Most substantial expansion continue to attend the industry and in 1916 the company found it expedient to augment the productive capacity of the plant by the erection of a three-story addition, eighty by sixty feet in dimensions, and thus the concern now has available for its purposes a large area of floor space, the mechanical equipment and all accessories being of the most approved modern type in all departments and the corps of employes now numbering about three hundred persons. The company is incorporated under the laws of Illinois and bases its operations on a capital stock of one hundred and fifty thousand dollars.

WAINWRIGHT B. GERVAIS

Wainwright B. Gervais, president of the company of which mention is made in the preceding paragraphs, has been identified with industrial activities in Chicago for more than thirty years, and as noted in the preceding context, has been the executive head of the Variety Manufacturing Company since 1903, his technical ability along mechanical lines being on a parity with the assured efficiency which he has shown as an executive and as a resourceful captain of industry.

Tracing his ancestry back to find old French sources, Wainwright Bacot Gervais was born at Aiken, South Carolina, on the 14th of September, 1859, and is a son of Paul Trapier Gervais and J. Caroline (Lance) Gervais. Mr. Gervais was reared to adult age on John's Island, one of the picturesque sea islands that constitute a part of Charleston county, South Carolina, and the major part of his early educational discipline was gained under the preceptorage of his mother, a woman of culture and most gracious personality. This training virtually ceased when he was in his thirteenth year, and his broader education has been that gained under the direction of that wisest of all head-masters, experience. At the age of eighteen years Mr. Gervais was made superintendent of a cotton plantation on James Island, another of the same South Carolina sea-island group, and he continued his residence in his native state until 1880, when he came to the north and found employment as a laborer for the Northwestern Wire Mattress Company, of Kenosha, Wisconsin, this corporation having later been

succeeded by the present Simmons Manufacturing Company. In the latter part of the year 1883 Mr. Gervais came to Chicago and secured a position as shipping clerk for the Mechanical Rubber Company, with which concern he continued his association until October, 1890, when he entered the employ of W. H. Chenoweth & Company. Here he gained his initial experience in the steel and iron business, and he made good use of the opportunities afforded him for fortifying himself in technical and business experience, his alliance with this concern continuing until the 1st of January, 1893, when he initiated his independent business career by identifying himself with the important industrial enterprise of which he is now the executive head and to the upbuilding of which he has given the best of his powers. Mr. Gervais has been in the most significant sense the architect of his own fortune, has achieved large and worthy success and is known and valued as one of the progressive and representative business men of the western metropolis. His father had been a prosperous man of affairs and honored citizen of South Carolina but incidental to the Civil war met with financial reverses that practically swept away his entire property, this misfortune having naturally proved a handicap to his children in the pursuance of their education. This sterling gentleman of the old southern regime died in 1874, leaving a widow and four children, and his widow long survived him, her death having occurred at Kenosha, Wisconsin, in 1892.

At Fort Johnson, South Carolina, on the 7th of April, 1896, was solemnized the marriage of Mr. Gervais to Miss Katherine G. Lebby, youngest daughter of Dr. Robert Lebby, and the two children of this union are Katherine Wainwright, born in 1898, and Paul Trapier, born in 1903. The family home is in the attractive Chicago suburb of Oak Park.

THE CHICAGO HOUSE WRECKING COMPANY

Established 1892. Incorporated 1893. Now owned and operated under the name of Harris Brothers Company.

The history of this great company reads like a romance—yet there are sound substantial reasons for its success. It was organized and established in 1892, for the purpose of purchasing and dismantling the great World's Fair of Chicago, by the four Harris Brothers, who are still the active executives and officers of Harris Brothers Company. The foresight and intelligence of these men enabled them to realize that a wonderful opportunity existed for a concern to preserve and distribute the material and equipment of an exposition.

During the past quarter century this company has successfully executed the most wonderful dismantling contracts in the history of the world. Its operations are among the notable achievements of recent times. The marketing of the various materials constituting the World's Fair in Chicago was only the first step of many greater operations that were to follow. The next great undertaking was the purchase of the Trans-Mississippi Exposition of Omaha, in 1899; then followed the Pan-American Exposition of Buffalo, in 1901, and later the Louisiana Purchase Exposition, of St. Louis, in 1904. Hundreds of more or less important contracts were executed during this time, and gradually this busi-

ness developed from its original small beginning in 1892 into one of great magnitude and world-wide fame.

Actuated by the spirit of evolution, they recognized the need of an organization to purchase and liquidate factories, railroads, complete plants, estates, etc. They took advantage of every possible opportunity and profited by the business disasters of others. Leading manufacturers in every section of the country, hard pushed for money, knew where they could get ready cash for their product or complete plant, if they were willing to make the necessary sacrifice. No sale of any consequence occurred at any time without the presence of their representatives, experts in their line at sizing up every business situation and able to cope with the most colossal undertaking.

Deals of this kind are handled by them each day with clock-like regularity. Today it may be a manufacturer's entire warehouse stock; tomorrow a big industrial plant; products, equipment, grounds and all.

Their 40-acre plant in the heart of the great Central Manufacturing District, is known from ocean to ocean and from Canada to the Gulf, as the Home of "The Great Price Wreckers." Numerous branch offices, the more important of which are located in Detroit, Michigan; St. Paul, Minn.; Christobal, C. Z.

President, A. Harris; Vice-President, D. C. Harris; Secretary, S. H. Harris; Treasurer, F. Harris.

BROWN SPECIALTY MACHINERY COMPANY

From a modest inception this corporation has developed one of the substantial and important industrial enterprises contributing its quota to the commercial precedence of Chicago. The company was organized in 1901, by Edwin F. Brown, long a prominent figure in connection with manufacturing, banking and other lines of enterprise in Chicago. The company was formed for the purpose of manufacturing the improved Hammer core machine and such other machines as might later find approval and adoption by the corporation. Mr. Brown was the first president of the company and Charles D. Christopher its secretary and treasurer. In the beginning the headquarters of the company were established at what is now 548 West Jackson boulevard, where the floor space utilized was only seventeen hundred and fifty square feet. In 1910 the business was removed to 2448 West Twenty-second street, where was brought into requisition a floor space of about four thousand square feet. In 1913 possession was taken of the headquarters, at 2424 West Twenty-second street, where was utilized a floor space fifty by one hundred and twenty-five feet in dimensions.

The first output of the Brown Specialty Machinery Company comprised the Hammer core machine and a core cutting-off and tapering machine, the former device having been patented by John L. Hammer in 1901. In 1910 the company acquired and added to its line of manufacture the Duplex Shaker, a sand-sifting device used in foundries, and in 1914 was instituted the production of a full sandblast equipment, which now comprises four sizes of revolving-barrel sandblast machines and four sizes of rotary-table sandblast machines, in addition to pressure tanks, automatic rooms, and dust arrestors.

The company also manufactures the line of sidewalk lights, odors and jack-screws that were formerly made by Brown Brothers Manufacturing Company, the business of which was absorbed by the Brown Specialty Machinery Company in 1913.

When the business of the Brown Specialty Machinery Company was established operations were instituted with a corps of only three employes in the shop. At the present time thirty employes are retained, including the office corps and general salesmen. In August, 1917, to meet the demands placed upon the institution by the constantly expanding trade, the plant of the company was removed to its present eligible location at 48th place and Maplewood avenue, where is utilized an approximate floor space of twelve thousand five hundred square feet and where the general equipment of the modern factory has been amplified in an appreciable degree. The company has exclusive foreign agents in England, France, Russia, Italy and Australia, and through representative New York exporters is handled an appreciable trade in South American and African countries. The domestic trade extends into all sections of the United States. The company has formulated and is rapidly bringing under way plans for the manufacturing or virtually all lines of foundry equipment, and the selling forces in this line are already well established. The other machines and tools that have been manufactured by the company are generally made on contract for those who handle the sale of the products. The present officers of this vigorous and progressive corporation are as here noted: Elmer A. Rich, Jr., president; F. H. Rich, treasurer; and Herbert T. Rich, secretary.

THE W. D. ALLEN MANUFACTURING COMPANY

The W. D. Allen Manufacturing Company succeeded in 1886 the old firm of E. B. Preston & Company, which was established in Chicago in 1869 by Everett B. Preston, of Hartford, Conn. This firm manufactured leather belting and sold a complete line of rubber goods. In the early days of the rubber industry, before the full development of the business, all kinds of rubber goods was handled by one concern. The E. B. Preston Company sold rubber belting, rubber hose, rubber boots and shoes, rubber clothing, druggists' sundries and rubber jewelry, which at that time was in vogue.

In the time of Preston & Company the rubber business was in its infancy. The men who manufactured rubber goods at this time were men who had known Charles Goodyear, and who manufactured goods under the Goodyear Patents. The rubber factories were few and far between, the manufacturing centers being Boston and New York with a few factories in Trenton, New Jersey. The most western rubber company factory in 1869 was on the Hudson river.

Shortly after that Doctor Goodrich started in a modest way a rubber factory in Akron, Ohio, from which has grown the very large and extensive rubber industry in that state, so that probably Akron, Ohio, is to-day the largest rubber manufacturing center in the world. In 1886 William D. Allen bought from the firm of E. B. Preston & Company the mechanical rubber goods and general mill

supply business. Business at that time was small and the firm was known as W. D. Allen & Company. Associated with Mr. Allen was Mr. E. H. Pease as bookkeeper and later on Thorval L. Ryerson and W. H. Symonds, since which time the business has grown until it has taken in the manufacture of leather belting and also the manufacturing of such hose brass goods as are necessarily connected with the mill supply business. The firm now occupies a factory on Western avenue and Twenty-third place, covering about fifty thousand square feet, in that department employing one hundred and fifty people. This department manufactures racks and reels and other fire protection devices, lawn sprinklers, hose couplings, nozzles, grease and oil cups, hose clamps and certain patented specialties.

In May, 1917, the Company moved their office and warehouse into a new building built for them at West Lake and North Jefferson street, covering about seventy thousand square feet. In this building the manufacturing of leather belting is carried on and a comprehensive stock of mill supplies is carried, including leather belting, mechanical rubber goods, shafting, hangers, pulleys, thresher supplies, engineers' supplies and all the general miscellaneous stock known under the comprehensive name of supplies.

The officers of the concern are: William D. Allen, president; Thorval L. Ryerson, vice-president; E. H. Pease, treasurer; W. H. Symonds, secretary.

Business has grown slowly but surely until the firm now is one of the largest mill supply businesses in the middle west and their manufactured products are sold throughout the world. A branch is maintained in New York City with particular reference to the export trade.

William D. Allen, president of the organization, was born in Hartford, Conn., graduated at Yale in 1878. He came west immediately after graduation and during all his business career has been identified with this business.

THE INVINCIBLE BLOW PIPE COMPANY

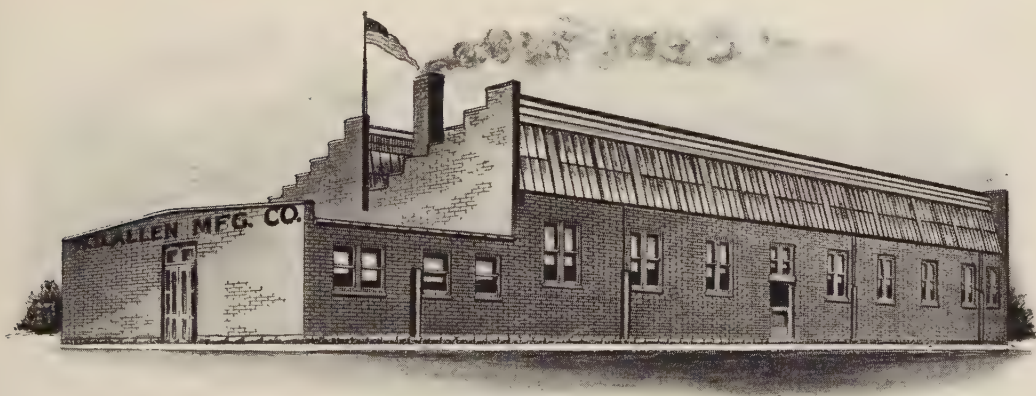
Within the pages of this publication will be found specific mention of many of the representative enterprises that contribute to the complex and widely varied industrial and commercial activities of the western metropolis, and to such recognition the Invincible Blow Pipe Company is well entitled. As engineers and contractors in the production and supplying of slow-speed and low-power shaving and dust collecting systems this company has developed in its line one of the greatest enterprises in the Union, and the high-grade mechanical devices manufactured by the company represent the ultimate functioning in the collecting, conveying and depositing of shavings, dust and other refuse from planing mills, saw mill, furniture factories, sash and door factories, veneer and cooper shops, automobile factories, wagon and carriage factories, grain elevators, shoe factories, pulp mills, tanneries, foundries and forge shops, sugar refineries, box factories, tumbling-barrel rooms, and all other places where dust and refuse is produced. The company also manufactures and installs fans and piping for heating, ventilating and pressure-blower systems.



General Offices



Assembling and Finishing Shops



Brass Foundry
W. D. ALLEN MFG. CO.

The expert engineering staff of this corporation has devised and perfected a slow-speed, low-power system that operates with the maximum of efficiency and the minimum of power, and the same is conceded to be the most economical of all similar devices on the market. The company has patented the Invincible, back-type, pressure-proof, non-resisting system of dust collectors, which works automatically, eliminates all resistance in operation and does not cause any disturbance of material, especially fine dust, thus causing the collector to blow out less dust at the tip of the air outlet than any type of centrifugal collector yet produced. In the improved system which has been perfected by this company have been eliminated the many objectionable features of the old high-speed system, which requires the forcing of a large volume of air through small pipes, fan and collector, all of which increase the resistance on the fan. The new system has come into being not through accident but represents the concrete result of scientific study, research and experimentation, and relative to the results thus secured the following statements have been written: "In a slow-speed system the same amount of air is handled, and in many cases even more, but it is done through larger mains and larger apparatus, with tremendous reduction in the total resistance and with a direct saving in power. Power necessary to drive air is the product of its weight by the pressure or resistance worked against. If we handle a given volume of air against half the old pressure, it is easy to see, for example, how the resulting power, which is the big item in the slow-speed system, is obtained."

The company manufactures steel-plate exhaust fans of varied sizes and designs and these have many features of superiority over all other devices made for the same purposes. The output of the well equipped manufacturing plant includes also all of the material and accessories used in the installation of the Invincible blower and feeder system, and the unequivocal superiority of this system has been proved under many most strenuous tests, the operation of the system itself constituting the best advertising and bringing to the company a constantly increasing demand for its products.

The Invincible Blow Pipe Company was organized in 1912 and was incorporated under the laws of Illinois. Of the new corporation Otto Butzbach became president; A. H. Anderson, secretary; and Daniel Bell, treasurer. The essentially modern industrial plant of the company is located at 2527-29 Homer street, the completing of the same having been effected in 1917. The adequate force of employes in the factory includes an average of twenty-five skilled mechanics, and the company maintains also several efficient erecting crews, so that prompt attention is given to installation work in all sections of the Union, the officers of the company being themselves men of fine technical ability and constituting the head of the engineering department, in which is maintained a staff of expert draughtsmen. From the time the company began operations each year has seen a large and definite increase in the business and installation of the Invincible system has been made in many of the largest industrial plants in the United States and Canada. Among the great Chicago industrial corporations for which this company is almost constantly engaged in installation work may be mentioned the International Harvester Company; Sears Roebuck & Company; Haywood Brothers & Wakefield Company and others of equal distinction in the

manufacturing and commercial world. The company has given special attention to placing its improved equipment in lumber mills, and furniture factories, and such installation has been made in many of the largest plants of the country.

MID-WEST BOX COMPANY

The Mid-West Box Company was incorporated in July, 1914, for the manufacture of Corrugated Fibreboard Products, and operations were started in the first plant at Anderson, Indiana, in August of the same year.

The General Sales Office of the Company was opened September 1st, 1914, in Chicago.

During the three following years two extensions were made to the original Anderson plant, and a warehouse building was erected.

In 1915 the Mid-West Box Company purchased the Board Mill owned by the Knerr Board & Paper Company at Kokomo, Indiana. New buildings were added at once for the manufacture of Corrugated and Solid Fibre Shipping Boxes, and in the spring of 1916 the Kokomo Box Plant started operations.

November 1st, 1917, a consolidation was effected, including the Mid-West Box Company and the K. I. Herman Company. The Chicago plant of the K. I. Herman Company was taken over and operated as the Chicago factory of the Mid-West Box Company, making Corrugated Fibreboard Boxes, Solid Fibre Containers and Kraft Lined Garment Boxes.

December 1st, 1917, the Mid-West Box Company started the operation of a new plant in Cleveland, Ohio, for the manufacture of Corrugated Fibreboard Boxes and Corrugated Fibreboard Products.

During the summer of 1918 a plant for the manufacture of Corrugated Fibreboard Products will be erected at Fairmont, West Virginia, and operations should start here in the fall of 1918.

One of the reasons for the rapid growth of the Mid-West Box Company is because of its policy with regard to organization. It is the company's belief that it is not possible to progress efficiently without a thoroughly efficient organization, and that it is not possible to have such an organization without high grade employees; nor is it possible to satisfy employees of this kind unless they are treated with the utmost consideration.

When the Mid-West Box Company was organized, the personnel of the organization was: W. H. Fairchild, president and general manager; J. P. Brunt, vice-president and sales manager; E. R. Hankins, secretary and treasurer; Berg A. Heinrichs, superintendent of machinery; E. E. Maston, superintendent of manufacture; J. E. Cookson, office manager. As the business has grown, this organization has been expanded considerably. The personnel in 1918 is as follows: W. H. Fairchild, president; J. P. Brunt, vice-president and sales manager; E. R. Hankins, vice-president and treasurer; K. I. Herman, secretary and general manager; Berg A. Heinrichs, superintendent of machinery; E. E. Maston, production engineer; J. E. Cookson, assistant secretary-treasurer.

Each of the plants has an efficient manager and superintendent, and these men

in the main have been developed in the business. The Board Mill is in charge of an experienced and efficient superintendent.

The Mid-West Box Company also operates its own Paper Stock Company in Chicago.

All of these plants are handled from the general offices of the company in the Conway Building, Chicago.

Sales Offices are located in New York City, Pittsburgh, Detroit, Toledo, Dayton, Cincinnati, St. Louis and Louisville. The western sales manager is located in the general offices and the eastern sales manager in New York City.

The quality of the product of the Mid-West Box Company is the highest possible to obtain. This is one of the reasons for their operation of their own Paper Stock Department and Board Mill. Their desire is to control the raw materials which enter into their product, as far as possible, so as to insure high and uniform quality.

It is necessary in the manufacture of "quality" Corrugated Fibreboard Products to have the right construction of the Corrugated truss, and to insure this the Mid-West Box Company manufacture their own Corrugating machinery.

The Mid-West Box Company believes to the fullest extent in close co-operation with all competitors, believing that the quality of all Corrugated Fibreboard Products should be kept to the highest point, so as to insure that the use of Corrugated Fibreboard Products will be extended on a merit basis.

The complete facilities of the Mid-West Box Company in 1918 will be: General offices, Conway Building, Chicago; sales offices, New York City, Pittsburgh, Detroit, Toledo, Dayton, Cincinnati, St. Louis, Louisville; factories, Anderson, Indiana; Kokomo, Indiana; Cleveland, Ohio; Chicago, Illinois; Fairmont, West Virginia. Paper Stock Warehouse, Chicago; Board Mill, Kokomo, Indiana.

THE IMPERIAL BRASS MANUFACTURING COMPANY

At the corner of Racine avenue and West Harrison street is located the finely equipped plant of this progressive industrial corporation, and the modern six-story building affords an aggregate floor space of one hundred and fifty thousand square feet. Here, under one roof and one management, are represented fourteen distinct departments, with efficient heads and devoted exclusively to the production of brass, bronze and aluminum work of all kinds, from the mixing of the metal to the carefully finished and definitely high-grade product. Concerning this corporation the following appreciative and authoritative estimate has been given: "The company offers a manufacturing service in casting, machining, automatic screw-machine works, finishing, spinning, plating, assembling, etc., under careful inspection and through the services of men trained to produce work that is absolutely accurate in every detail and that represents the maximum excellence in artisanship."

The Imperial Brass Manufacturing Company makes its own patterns, tools and dies, and more than forty years of experience enables it to so mix the metals as to secure intrinsic constituency and characteristics best suited to the service of the parts involved. From the large accumulation of these many years,

it is often possible to adapt patterns and tools already in hand to the needs of other customers, and that with but slight changes. Moulding machines, annealing ovens, high-speed machinery, etc., bring the cost of production down to the lowest figure consistent with careful and effective work.

In addition to service to various manufacturers as brass specialists, the Imperial Brass Manufacturing Company makes a number of specialties of its own, and among the same may be noted the following: Watrous patent sanitary plumbing fixtures; building hardware, including kick-plates, push and pull plates, push bars, door guards, thresholds, railings, etc.; oxy-acetylene welding and cutting equipment; automobile accessories and specialties, including parts for many of the large car manufacturers; bronze name-plates and memorial tab-



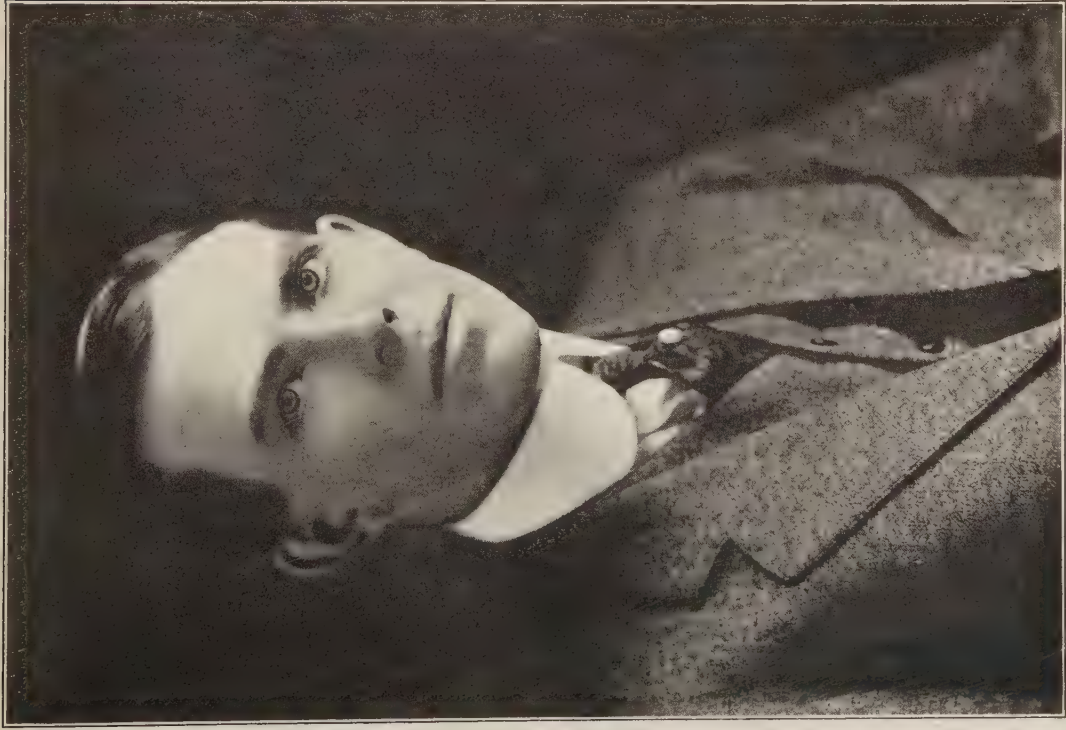
General Offices and Factory

lets; shower mixers; mixing valves; mechanical lubricators; self-heating household irons; Kramer adjustable electric-lamp fixtures; Imperial flash-light guns, and other devices of the highest grade of workmanship.

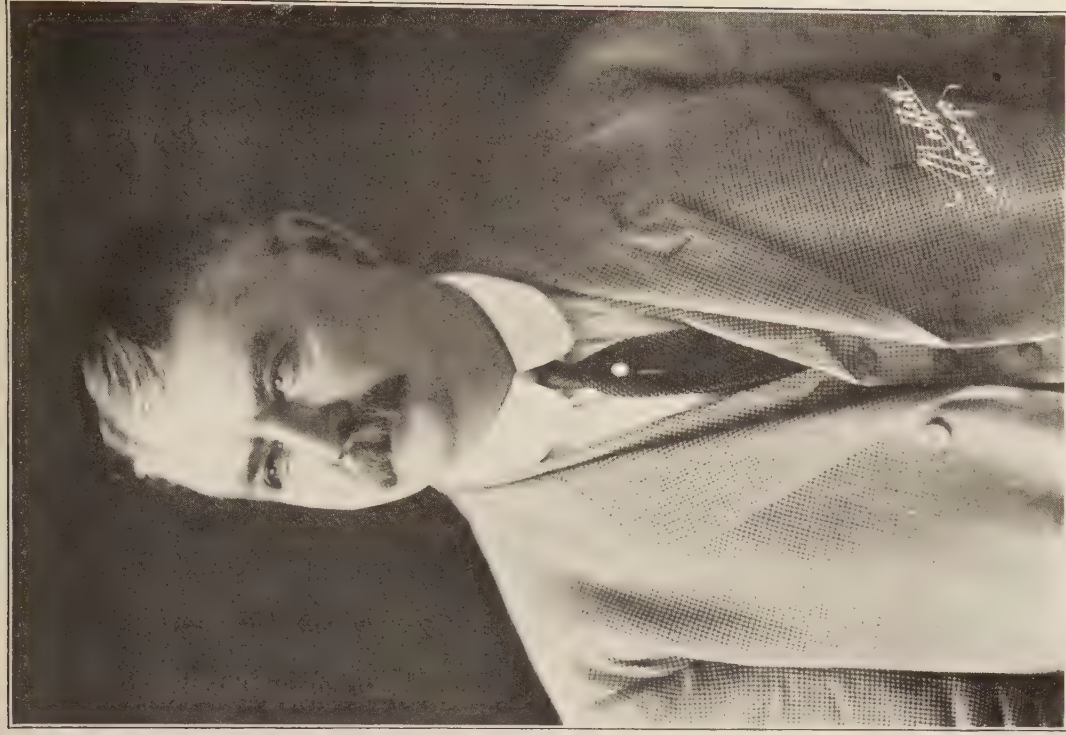
The officers of the Imperial Brass Manufacturing Company are as here designated: Frank McNellis, president and treasurer; Joseph J. Risch, assistant-treasurer; Fred C. Ralston, secretary; August Dobrick, superintendent; and Charles Eckert Young, sales manager. The company was organized and incorporated by Charles McNellis, father of the present president, and he was actively identified with the brass manufacturing business in Chicago for fully forty years.

CHARLES McNELLIS

It is consonant with the purposes of this work to pay brief personal tribute to the founder of the institution whose growth and development have been outlined in the preceding paragraphs. Charles McNellis was one of those men who



FRANK MCNELIS



CHARLES MCNELIS

had a part in the upbuilding of Chicago in an important formative period of her history. The disastrous conflagration of 1871 had practically swept the city out of existence and brought about a condition which "tried the souls of men" and called for the highest order of courage and constructive genius in meeting and overcoming the difficulties which confronted them, and the record of the life and achievements of Charles McNellis finds easy and graceful place in a history of the industrial growth of Chicago. It is the story of a noble character whose force and fortitude amidst deep discouragements, whose good judgment in the government of complicated affairs, whose control of agencies and circumstances, and whose signal success in bringing to happy fruition great undertakings, contributed in marked degree not only to his own prosperity, but also to the welfare of the community in which he lived and, in which, he took a lively and active interest.

Mr. McNellis was born in Canada, April 28th, 1852, a son of John and Ellen (Brady) McNellis. His boyhood days were spent amidst such surroundings as were common to the youth of his period and locality, receiving the advantages of a good common school education. He early began his active experience in the brass manufacturing business with David M. Ford and, in 1871, formed an association with E. S. Turner, the business being conducted later as the E. S. Turner Brass Works, Mr. McNellis retiring from this association, January 1st, 1905. He then organized the Imperial Brass Manufacturing Company and served as its president and treasurer until his death December 7th, 1914. He was a member of the American Brass Founders' Association, the Illinois Manufacturers' Association and the Chicago Association of Commerce. In 1878, he married Miss Harriet Simmons, of Chicago, and to them were born twelve children.

FRANK McNELLIS

President of the Imperial Brass Manufacturing Company, is a native of Chicago, born November 20th, 1880, the eldest son of Charles and Harriet (Simmons) McNellis. He typifies the younger generation of Chicago business men who are carrying forward, with signal success, the enterprises established and begun by their progenitors. He grew to manhood in his native city where he enjoyed the excellent advantages afforded by the common and grammar schools, supplementing this by a course of study at the Metropolitan Business College.

At an early age, he engaged in the brass manufacturing business under the tutelage of his father, then associated with the E. S. Turner Brass Works and also joined with his father in the formation of the Imperial Brass Manufacturing Company, becoming vice-president, and later secretary, of the new organization. Following the death of his father, as noted above, he assumed the duties of president and treasurer, which dual office he now holds.

In civic and social affairs Mr. McNellis takes an active interest, having served as vice-president of the Community Club, of Elmhurst, of which he was also one of the organizers. He is a member of the time honored Masonic fraternity, holding membership in Elmhurst Lodge, Maywood Chapter, Royal Arch Masons, and Siloam Commandery, Knights Templar. He also holds individual member-

ship in the American Chamber of Commerce and the Hamilton Club of Chicago. In 1903, was recorded his marriage with Miss Elizabeth Hartman, of Chicago, and to this union have been born three children—Frank, Jr., Dorothy Marie and Alice Eileen.

Mr. and Mrs. McNellis are members of the Episcopal church, of Elmhurst, in which Mrs. McNellis takes an active and lively interest in woman's work.

GEIB & SCHAEFER

Chicago has many manufacturing industries which figures not only as the largest in their specific fields to be found in the United States and undoubtedly in the entire world. Definite precedence of this order attaches to the extensive business conducted by Geib & Schaefer in the manufacturing of high-grade cases for musical instruments, sample cases, cases for thermos bottles, etc., the various products being constructed of wood, leather, fiber and canvas and each type representing the acme of excellence. Like many another of the important industries of the western metropolis that of Geib & Schaefer has been developed along normal and conservative lines and from small beginnings.

In the year 1900 Jacob U. Schaefer and Charles A. Geib, both expert mechanics, formed a partnership and began manufacturing musical instrument cases and other similar products on a very modest scale, Mr. Geib having served a four years' apprenticeship in this special line and having become an expert artisan, while his partner had been fortified through one year of practical experience in the same field of manufacturing. With limited financial resources the two energetic and ambitious partners initiated manufacturing operations in a building at 1739 Hancock avenue, where they made requisition for a floor space of only eight hundred square feet and where the original force of employes numbered only six. The province of the enterprise at the start was confined to the manufacturing of canvas cases for guitars and mandolins, and before the expiration of six months the scope of the business was expanded to include also the manufacturing of leather cases for musical instruments. Mr. Geib assumed the functions of business manager and salesman and Mr. Schaefer gave his close attention to the work and management of the factory. So effectively did Mr. Geib exploit the new enterprise and prove successful in the sale of the products of the factory that the business of the firm for the first year aggregated about thirteen thousand dollars, the output having been sold almost entirely to Chicago jobbers and retail dealers. With confidence in the cumulative success of their business, the principals in control of the now substantial business purchased, in 1902, a site at 1757 Central Park avenue, and there erected a one-story factory building that supplied an aggregate floor space of twenty-five hundred square feet. The next year a second story was added to the building, while later the demands for greater accommodations led to the building of a second story and otherwise supplementing the plant until it now has a floor space of twenty-seven thousand square feet. The mechanical equipment and all incidental facilities are of the best modern type and in the operations now carried forward in this well equipped industrial institution more than one hundred

persons are employed, the greater number being skilled mechanics. The products of the factory now find sale in all parts of the United States and Canada, and a substantial trade has been developed also in Hawaii, Cuba and South Africa, the average annual business being now in excess of three hundred thousand dollars. Mr. Geib still remains in charge of the sales and general business of the firm and his honored associate, Mr. Schaefer, remained as general superintendent of the factory until his death, which occurred December 31, 1916. In 1906 William C. Schaefer, a son of Jacob U. Schaefer, one of the two founders of the business, was admitted to partnership, as was also Nicholas V. Geib, a brother of the other founder and present executive head of the enterprise. The firm now holds precedence in being the most extensive manufacturers of musical cases in the United States, and it is probable that no concern in the world controls a larger or more important business in this field of industrial enterprise. The firm has membership in the Illinois Manufacturers' Association and stands as one of the vigorous and representative exponents of manufacturing and commercial enterprise in the western metropolis. William C. Schaefer is superintendent of the leather and canvas department of the business and factory, and Nicholas V. Geib has the superintendency of the woodworking department.

CHARLES A. GEIB

Charles A. Geib, whose prominent identification with Chicago's industrial and commercial interests as has been noted in the preceding article was born in the town of Newburg, Wisconsin, April 29, 1876. His father, Peter Geib, was born in Germany and came to America in 1845, stopping for a period in Chicago, but found no suitable opening here. He then proceeded to Milwaukee, Wisconsin, where he found work for a time, thence to Newburg, Wisconsin, where he became a prosperous farmer, accumulating a competency and retiring from active life twenty years ago, but still a resident of Newburg, hale, hearty, and healthy at the age of 81 years. His wife six years his junior is still vigorous and happy. They are the parents of twelve children all of whom are living. It may be stated that Mrs. Geib was at one time an employe in Chicago in the early days. The early educational advantages of Charles A. Geib were limited to a desultory attendance in the public and private schools of Newburg, and as a youth he there learned the lessons and value of honest toil—principally through his association with the work of the home farm. He did not have the advantages of going to school for more than three years all together. In 1896, at the age of twenty years he established his home in Chicago, where he found employment in the factory of Martin Weick Manufacturing Company, manufacturers of cases for musical instruments. His apprenticeship was most thorough and he acquired a full knowledge of all details of manufacturing as well as the commercial phases of this line of enterprise. He continued as a valuable employe of this company until 1900, when he initiated his independent career in the same line of manufacturing, by forming a partnership with the late Jacob U. Schaefer establishing the firm of Geib & Schaefer, the record of which has been adequately outlined in the preceding article.

Mr. Geib is one of the organizers and stockholders of the West Bend, Wisconsin, Bank, established in 1917 and proving very successful, he is also associated with the West Bend woolen mills in which he holds the office of secretary and treasurer.

May 22, 1900, recorded the marriage of Mr. Geib to Miss Elizabeth Schaefer, a daughter of his former partner, the late Jacob U. Schaefer, and the six children of this union are: Clarence G., Ambrose, Loretta, Dorothy, Lucille and Charles, Jr.

JACOB U. SCHAEFER

It is but in justice due that a brief memoir to the late Jacob U. Schaefer should supplement the foregoing sketches of the firm of which he was one of the founders.

Mr. Schaefer was born in Oberprince Hessen, Nassau, Germany, in the year 1847, and was there reared and educated. In 1880 in company with his wife and their one child, he came to the United States and made Chicago his destination. He found employment as a day laborer for the Pullman Company, and the long period of twenty years was marked by his effective service with the great corporation and other phases of railroad work. In 1899 he entered the employ of Martin Weick Manufacturing Company, and one year later he became associated with his son-in-law, Charles A. Geib, in organizing the firm of Geib & Schaefer and founding the business still conducted under this title, his active association with the enterprise having continued until his death, December 31, 1916, at the venerable age of sixty-nine years and eight months. Mr. Schaefer was a man of sterling character, commanded the respect and confidence of all who knew him, and lived an honest, upright and industrious life,—one of the world's noble army of productive workers. In Hessen-Nassau, Germany, was solemnized his marriage to Miss Mary Noll, who survives him, and all save the eldest of their eight children were born after their emigration to America. Of the children two are deceased; Elizabeth is the wife of Charles A. Geib, as noted in the foregoing article; Mary is the wife of Nicholas V. Geib; William C. is a member of the firm of Geib & Schaefer, and the three younger children, Jacob U. is foreman at Geib & Schaefer's; Joseph A. and Margaret remain with their widowed mother.

William C. Schaefer, superintendent of the leather and canvas department of the factory of Geib & Schaefer and successor of his honored father as a member of this firm, was born in Chicago on the 7th of January, 1884, and his early educational advantages were those afforded in the parochial schools. As a lad of fourteen years he began work in the factory of Martin Weick Manufacturing Company and his experience was such as eventually to give him prestige as a skilled mechanic. Upon severing his association with this company he became one of the founders of Geib & Schaefer and he has been a constituent member of this progressive firm since 1906. He is independent in politics but takes loyal interest in civic affairs, especially those pertaining to his native city. His first wife, whose maiden name was Caecelia G. Weske, died in 1914, leaving one child Caecelia, and on the 23d of May, 1916, Mr. Schaefer wedded Miss Ida

O. Betz, of Chicago, and have one child Eleanor, their pleasant home being at 2144 Neva avenue.

NICHOLAS V. GEIB

Nicholas V. Geib, founder of the veneer molds, fibre and woodworking department of the firm of the aforesaid Geib & Schaefer was born on the old homestead farm of his parents near Newburg, Wisconsin, on the 5th day of June, 1880. After his school days he left his parental home and traveled in various parts of the country—whence he was employed in several lumbering and mechanical operations—his natural mechanical ability giving him marked facility in his work. In 1904 Mr. Geib came to Chicago and took employment in the factory of Geib & Schaefer, where under his skillful and mechanical workmanship devised new ways and means of adopting quicker and more accurate devices in the woodworking department of the well organized plant and entered as junior partner with William C. Schaefer in 1906.

THE LAMMERT & MANN COMPANY

In the manufacture of gas and gasoline engines; pressure, centrifugal and rotary vacuum pumps and automobile trucks; and in the designing and construction of special machinery, this company has gained a place of distinctive priority and has built up an important industrial enterprise that adds its quota to the commercial precedence of Chicago. The well equipped manufacturing plant of the company is established at the corner of Wood and Walnut streets, with office address at 215 North Wood street, and this modern, daylight factory has the best of facilities for handling all work assigned to its various departments. Concerning the primary output from the plant of this company the following consistent statements have been made: "Distinct features of mechanical construction and simplicity, the employment of high-grade materials and skilled workmanship, have demonstrated to the users of power and also to the trade the superiority of the Lammert & Mann products.

It is not requisite that in an article of this circumscribed order be attempted a description of the various products manufactured by this progressive company, for such information is readily to be obtained from direct sources. The various types of pumps manufactured by the company express the basic principles of efficiency that the concern has ever insistently demanded, and it may be said that the Lammert rotary vacuum pump was designed to meet a long-felt demand for a high-grade, high-duty pump for service where a distinct dry vacuum is required. These pumps are extensively used in connection with canning, preserving and dairy industry, and statistics show that ninety-five per cent. of the concerns engaged in the canning industry use the Lammert pumps.

The business now conducted by the Lammert & Mann Company had its inception in 1893, when a copartnership was formed by Ferdinand E. Lammert and Arthur S. Mann, both skilled mechanics of broad and varied experience. With

limited capital and modest mechanical equipment, the new firm of Lammert & Mann began operations in the basement of a building at Nos. 9 and 11 North Jefferson street. The original functions of the little establishment were in the repairing of machinery and the handling of a general jobbing business usually assigned to a machine shop. The exceptional technical skill of the partners, together with the efficiency of service and high grade of all work turned out, brought to the new enterprise substantial success, even the smallest job being given the most scrupulous attention and all work being invariably completed at the time promised. Both Mr. Lammert and Mr. Mann were indefatigable in their application to work, and frequently they would be found actively working in their shop in the midnight hours, and even to the early hours in the morning, and that after having previously done a full day's work. Mr. Lammert used such unusual hours for figuring, planning and drafting work, and frequently he would continue his work until long after midnight, after which he would sleep in the shop, with his overalls as a pillow, until he began work again at the regulation hour in the morning. The original shop of the firm had only eight hundred square feet of floor space, and at the beginning the partners did all work save that assigned to their one employe. Operations were continued at the original location for a period of eight years, and in the meanwhile expansion of accommodations was made from time to time until three thousand square feet of floor space were utilized, the force of employes having been increased to fifteen persons. The entire plant was destroyed by fire, and the business was promptly re-established in new quarters, 216 South Jefferson street, where was put into use a floor space of 4,375 square feet. Later requisition was made for two additional floors in the same building, and thus the available floor space was increased to more than thirteen thousand square feet. In these quarters operations were successfully continued until 1914, and in the meanwhile Mr. Lammert had come to a full realization of the imperative consistency of providing a modern plant in a permanent location. He accordingly purchased land at the corner of North Wood and Walnut streets, where was soon afterward completed the present substantial and modern industrial building, erected and designed specially for the purposes to which it is applied. Removal to the new plant was made in 1914, and here was utilized until 1916 an aggregate floor space of 10,152 square feet, the year last mentioned, to accommodate the constantly increasing business, an addition to the factory was made, and by this medium the floor space was increased by 6,250 square feet.

In the first year that the concern manufactured vacuum pumps, only four of the pumps were sold. The year 1916 recorded the sale of more than 500 of the pumps. The Lammert pumps, representing in a general way the inventive genius of Mr. Lammert, president of the company, are now in use in all parts of the United States, as well as in many foreign countries. The facilities of the plant are such that the company is called upon still to do a large amount of skilled repair work on Corliss and other types of engines, and an appreciable jobbing business is controlled in the designing and building of special machinery. An average force of more than sixty skilled artisans is employed and every product of the factory represents the maximum of excellence, the high reputation of the concern constituting its best commercial asset. In the early part of the year 1917 the company expanded its sphere of operations by adding the manu-

facture of an electric automobile truck, the same having a number of new and valuable improvements that are virtually certain to bring the product to the forefront, as is assured by the favorable reception already given and by the thoroughly tested efficiency of the truck in all of its features. In 1896 Mr. Mann discontinued his active interest in the business and his honored friend and associate, Mr. Lammert thereafter continued the enterprise in an individual way until 1915, when he effected the incorporation of the same, with an authorized capital stock of \$57,700. His deep appreciation of the character and achievement of his former coadjutor, Mr. Mann, is shown in his retention in the corporate title of the name of the original firm. After the incorporation Arthur S. Mann held the honorary office of vice-president until his death, in 1916. Mr. Lammert has been the president and active head of the company from its incorporation, F. H. Byrne is secretary. After the death of Mr. Mann the office of vice-president was assumed by the present incumbent, Donald Rosie. The directors are F. G. Lammert, F. J. Lammert and L. Hartman who is also chief engineer.

FERDINAND LAMMERT

Ferdinand Lammert, president of the company described in the foregoing article, was born in the city of Milwaukee, Wisconsin, November 20, 1863, and there he continued his studies in the public schools until he had attained to the age of sixteen years. He then entered upon an apprenticeship in the great factory of the Allis Company, Milwaukee, and there learned the trade of machinist in a most thorough way. He continued in the employ of this company fifteen years, won promotion to the position of foreman and had the distinction of installing and being placed in charge of the company's large exhibit at the World's Columbian Exposition. At this time he determined to remain in Chicago and after the close of the great exposition he became associated with Arthur S. Mann in establishing the modest enterprise from which has been developed the substantial industry now controlled by the company of which he is president. The Lammert & Mann Company is represented in membership in the Illinois Manufacturers' Association and the National Metal Trades Association. Mr. Lammert is a devotee of the automobile and is an active member of the Chicago Automobile Club. He is affiliated with the Masonic fraternity, is independent in local politics but in national affairs is a staunch supporter of the cause of the republican party.

DONALD ROSIE

Donald Rosie, vice-president of the Lammert & Mann Company, was born at Grand Haven, Michigan, on the 23d of February, 1869, and he continued his studies in the public schools until he had completed the the curriculum of the high school. At the age of seventeen years he assumed a minor clerkship in the offices of the Allis Company, of Milwaukee, and a year later he was transferred to the company's Chicago branch. He continued in the employ of this corpora-

tion, now styled the Allis-Chalmers Company, for a period of sixteen years, and for the final two years he was a traveling representative of the company. He finally resigned his position and accepted that of Chicago selling representative of the Westinghouse Machine Company, an incumbency which he retained for eight years, at the expiration of which he assumed his present office with the Lammert & Mann Company. Mr. Rosie has won advancement and success through his own ability and well ordered efforts and is today one of the substantial and popular figures in the industrial life of Chicago. He is affiliated with the Masonic fraternity and with the Benevolent & Protective Order of Elks.

L. V. ESTES INCORPORATED

L. V. Estes, Incorporated, organized ten years ago, now grown to a position of dominance as Efficiency Engineers, was the result of the natural growth of the organizing and executive genius of Loring V. Estes, president of the company.

Though now the company has expanded to include three separate departments, with specialists of national reputation at the head of each, Mr. Estes still retains his close supervision of the whole. The identity of the company as a smoothly working unit is always maintained. This is one of the factors that keep L. V. Estes, Incorporated, at the head of efficiency firms of the country.

Mr. Estes' twelve years of experience in the shops as factory mechanic, foreman, and superintendent; supplemented by his ten years of experience in the application of efficiency principles as a production engineer, have qualified him for the pre-eminent position he occupies in the efficiency field today.

A Pioneer in Efficiency Field—Long before efficiency engineering had become recognized as a special profession, Mr. Estes had won commendation from the Naval Constructor of the United States Navy for his work while Master Machinist in the Construction and Repair Department of the Mare Island Navy Yard. He studied then as now, the human as well as the mechanical element of all factory work. He completely reorganized the shops in his charge and placed a previously run-down department in the lead for production.

His leadership of L. V. Estes, Incorporated, has developed his mechanical and organizing ability. As the business grew, he picked men who are practical specialists in efficiency, not theorists. They have grown with the company. Now the service called Estes Service means a constructive, systematic treatment, after long and careful planning.

Covers All Fields—There is now a large staff in the Estes organization. The company sends its men in response to calls from every corner of the country. There is constant exchange of plans and criticism between the men on the jobs and headquarters. The service is given by the group, and represents the cream of the knowledge and ideas of many able men, each a specialist in some line. The variety of industries served by L. V. Estes, Incorporated, proves the versatility of Estes Service. And the versatility makes it a practical and logical help for any industry seeking growth and betterment. There is an ability to fit any condition no matter what unique features may be present.

One of the notable facts about L. V. Estes, Incorporated, is its guarantee. Its platform is to the point. Its analysis, recommendations and installations must prove profitable or there will be no charge. There seems to be no argument about the honesty and efficiency of Estes Service. The Estes viewpoint is a true one, governed by the perspective of years of individual and corporate experience.

At first the L. V. Estes Company devoted its attention to Factory Efficiency. In growing, it has added a department of Costs and Accounting and an Office Efficiency Department. From a firm rendering only one branch of efficiency service, which was sufficient in its earlier days when the meaning of efficiency was little understood by business firms in general, it has developed and strengthened into a firm capable of giving efficiency service in each and every branch of a business.

Large Corps of Specialists—At the head of each of the three departments is an expert executive and engineer. Each department has its own corps of specialists, chosen carefully from the large number of applicants and measured by the high Estes standard. It is safe to say that every Estes man has had years of training as a worker, as an engineer, as an executive. He must have a good record, an analytical mind and natural business instinct.

After choosing a man for the staff of one of its departments, L. V. Estes, Incorporated, train him in the Estes Methods. By the time an expert qualifies for assignment he has absorbed the Estes spirit of accuracy and fairness—a spirit that has the interest of the client at heart.

Factory Efficiency Department—The Factory Efficiency Department is thoroughly equipped to solve manufacturing problems in a way that produces the maximum results with the maximum cost. Attention is given to all phases of manufacturing from the raw materials to the finished product. Methods of factory control, wage payment plans, layout and routing, and Standardization of labor and material are carefully worked out by the thorough analysis and deduction from statistics.

How Factory executives may best know and manage their plants by graphically shown data at a reasonable cost comes under factory control. A system of accurate stock records is a first step, followed by a comprehensive system of planning, routing and dispatching production.

Control of the human element is just as important for efficiency. The relation of employer to employee is subjected to investigation. The relation between men and foreman, methods of employment, training and welfare work are put under scrutiny. The plan of wage payment is investigated and corrected wherever possible to give a better incentive to the workman.

The routing and handling of raw and process materials and of finished products must be made economical. Under this head is considered the value of labor saving conveyor equipment, its type and location.

Labor and Material must be standardized, called for elimination of wasted labor, effort and material.

The whole plan of operation requires a scientific analysis, followed by proper deduction of the underlying and contributory cause of inefficiencies, after which the proper corrective procedure is planned and carried out.

Commercial Transportation Efficiency—One of the specialized departments

under factory engineering deals with the intensely modern problem of commercial transportation. This service is to determine whether specific hauling conditions require use of horses or trucks. If the latter are required, attention is given to the general efficiency of the truck fleet and selecting the correct body and engine design, improving if necessary. Loading and unloading facilities, delivery route and all kinds of hauling problems are handled by this department in a way that cuts a big percentage from haulage costs of practically any concern.

Office Efficiency Department—The work of the Office Efficiency Department covers every phase of clerical efficiency from the receiving of incoming orders to the collection of accounts.

Office Efficiency is acquired by organizing and coordinating departments. Standardization of policies and routines of department, together with predetermined tasks for each clerk, affords central control by the executive. A planning department in the offices is organized where necessary.

Attention is given to the human element by deciding the proper methods of employment and training, and by installing the incentive of a task and bonus plan of payment wherever possible.

Office layout calls for study of the most effective equipment, the best location for desks, working spaces and equipment, straight line routing of office papers and labor saving appliances. Record keeping, stenographic work, correspondence, handling of complaints, all routine clerical work are studied for loss of time and motion. Centralizing and standardization are effected.

As in Factory Efficiency, co-operation and welfare, usually unstabilizing factors, are given great attention.

Sales Analysis Department—A Sales Department, to deal with sales exclusively and advertising problems and methods, is one of the specialized departments under Office Efficiency. Intensive analysis of policies and methods followed by constructive suggestions is the plan followed.

Industrial Accounting Department—To develop scientific executive control through accounting and cost records is the work of the Industrial Accounting Department. This department gives special attention to standardization of factory conditions so as to insure accurate original-cost records and senses simple but effective methods of securing necessary accounting data without undue clerical cost. It determines overhead charges, secures accurate distribution of labor, material and overhead. Inventories, profit and loss reports, costs of finished work and products are part of the plan. A thorough and economical method of compiling all necessary statistics, with their source, routing and destination, in order that the best results may be obtained from them, is worked out as the keystone of the industrial accounting structure.

Association Work a Specialty—Constructive accounting work for associations of manufacturers is already one of the most important features of the Estes Service. Moreover, it is steadily gaining in importance, as manufacturers are coming more and more to realize that the best goods of an industry demands that that all manufacturers in it operate their cost system alike.

Throughout all the Estes Service is the cooperative idea. Absence of friction is noted in the efficiency installations of L. V. Estes, Incorporated, due to the tendency of the plans to win the cooperation of employees.

The Estes Company does not resort to the disorganizing methods of many so-called efficiency specialists.

The firm wanting an efficiency examination need not wait for a dull season to have it. The record of L. V. Estes, Incorporated, proves that efficiency can be applied at any time—the sooner, the better.

Efficiency Service for All—Big concerns and small concerns—old firms and new can benefit by efficiency service such as that offered by L. V. Estes, Incorporated. The records of scores of firms, representing almost every industry imaginable, shows savings of from \$10,000 to over \$100,000 per year after installing Estes Service.

Any firm or association wishing to learn more about the Estes organization and its plan of operation would do well to write L. V. Estes, Incorporated, 332 South Michigan avenue, McCormick Building, Chicago. They have recently published a very interesting book entitled, "Higher Efficiency," which will be mailed to any executive on request.

UNITED STATES MATERIALS COMPANY

In a modern and admirably equipped plant at the corner of Weed street & Sheffield avenue this progressive concern has developed a business that gives it precedence as being the largest manufacturers of high-grade magnesite building stuccos and plasters in the entire United States, and this fact gives assurance of the importance of the company as contributing to the industrial and commercial precedence of Chicago. The company was organized in December, 1912, and in April of the following year, after it had received its charter through incorporation under the laws of Illinois, the following named officers were elected, no change having since been made in this effective executive corps; Bruce C. Davey, president; Jay H. Emerson, vice-president; and Robert J. Pilat, secretary and treasurer. The corporation bases its operations on a capital stock of fifty thousand dollars and upon the best of technical and executive management. The original factory of the company was located at 225 West Illinois street, but with the rapidly increasing business it finally became imperative to obtain larger manufacturing accommodations, with the result that, in 1913, the company purchased and equipped its present modern manufacturing plant, which has eligible location at the corner of Weed street and Sheffield avenue and which, through its private switch tracks, controls the best of shipping facilities, direct connection being thus afforded with the lines of the Chicago, Milwaukee & St. Paul Railroad. The factory is a modern brick building of two stories, and affords thirty-five thousand square feet of floor space, all of which is fully in requisition in connection with the various departments of the business. The company maintains well ordered selling agencies in various cities, including Milwaukee, Wisconsin; Minneapolis and St. Paul, Minnesota; Detroit and Kalamazoo, Michigan and Akron, Ohio. In addition to these branches the company has representation through dealers engaged in business in many other cities of the Union.

Under a general patent granted to the president of the company, is manu-

factured on an extensive scale the celebrated and unequalled product known as "Elastica, the Standard Magnesite Stucco," for which the following legitimate claims are consistently made: It is absolutely waterproof and permanent; is fireproof; is a non-conductor of heat and cold; can be applied in freezing weather; is elastic to a great degree, preventing cracks; covers more yards per ton than any other stucco; bonds chemically as well as mechanically with constructions over which it is used, and adheres to and seals all openings; is chemically proportioned by laboratory tests; is factory mixed in the best mixing machines yet devised for this purpose, and every bag sent forth maintains the same integrity of product; the finishes through this stucco give nature's inimitable beauty: Elastica is furnished in a greater variety of dry-rock, granite and quartz finishes than any other type of stucco, and is supplied both in white and colors.

In the construction of many of the largest and most important industrial buildings, warehouses, etc., the Elastica products have been utilized and the superiority has been so effectually demonstrated in every instance as to make the use of the material the most valuable advertising for the same. A large number of the largest factories recently erected in Chicago, Detroit, Akron, Youngstown, Waukegan, Waukesha, Midland, Ohio, and other industrial centers in different states of the Union give tangible evidence of the splendid value and availability of the Elastica Stucco products, and the demand for the same more than tests the capacity of the large and well equipped manufacturing plant of the company. In the establishment is maintained a complete scientific laboratory for the testing and grading of materials and compounds, and in connection therewith the company is at all times prepared to extend technical and engineering co-operation to building contractors and others utilizing the various products from this factory. The Elastica line of scratch-coats, stuccos and finishes are rapidly superseding all other types of Magnesite cement stuccos or other cements utilized for similar purposes in the compounding and mixing of prepared building materials, and the use of the Elastica products for residences and other buildings is fortified by the following definite points of recognized superiority: The durability of the exterior finish approximates that of granite, and its application obviates the necessity for repairs, repainting, etc., the material being waterproof and fireproof and being adaptable to any style of finish or scheme of color. The elasticity of the material is specially great and much strain may be developed without cracking or breaking the material after application. Elastica is a magnesite, oxychloride cement and therefore is from four to five times stronger than the best Portland or limestone cement stuccos; it adheres perfectly and virtually becomes an integral part of all kinds of walls and its freedom from expansion and contraction after it sets causes it to constitute a virtually sealed shell of hermetical type,—one preventing seepage of moisture or air around joints, window and door casings, etc.

The elastica products are manufactured in seventy different colors, no water is required in making the mixture for application and thus the product can be used in any kind of weather and under all conditions of temperature. Elastica is an absolute non-conductor of heat or cold and is being extensively utilized for pipe-covering and for the insuring of thorough insulation in refrigerating plants.

Within the year 1917 the United States Material Company, has been granted two specific patents covering the manufacture of the Elastica magnesite stucco, and that the product has become a recognized standard is exemplified in the demand for the same in connection with formal plans and specifications for buildings, the insistent demand for the products and the constantly growing business giving evidence that there will soon be need for greatly increased manufacturing facilities on the part of the company. The mechanical equipment of the factory is of the best modern type and forty skilled workmen are employed in the manufacturing of the high-grade products, besides which is retained an able staff of chemists and engineers for the supervision of the laboratory work of the institution throughout the entire process of manufacturing. Mr. Davey, the president, and Mr. Pilat, the secretary and treasurer, of the company are young men of marked technical and executive ability and have adopted most staunch and progressive policies in the conducting of business, the while the success of the enterprise is furthered through their wide acquaintance with representative architects and building contractors throughout the United States.

INDEPENDENT PNEUMATIC TOOL COMPANY

This corporation represents one of the large and important industrial enterprises of Chicago and the State of Illinois, as may be readily understood when it is stated that capital amounting to \$3,500,000 is employed in its operations. The capital stock of this corporation is \$500,000 and the Aurora Automatic Machinery Company, of which it is a subsidiary, is capitalized at \$3,000,000.

The business was established at Aurora, Illinois, in 1892, where a factory employing 1500 people is being operated. The Chicago factory, which is almost an exact counterpart of the Aurora plant, was placed in commission in the year 1913.

The business was incorporated as the Aurora Automatic Machinery Company in 1895, with a capital stock of \$30,000. The original officers were Axel Levedahl, President; Simon Florsheim, Vice-President; and C. E. Erickson, Secretary-Treasurer. During the following ten years the business grew to such an extent that additional capital had to be employed and the stock was increased until its present large proportions were reached.

In 1905, the Hon. John P. Hopkins, former Mayor of Chicago, was elected President; John D. Hurley, Vice-President; C. E. Erickson, Treasurer; and A. B. Holmes, Secretary. The venerable and honored pioneer of Chicago industrialism, Simon Florsheim, was made Chairman of the Board of Directors. During this same year, the Independent Pneumatic Tool Company was organized as the Sales Company for pneumatic tools. The Executive officers of this corporation were James Buchanan Brady, President; John D. Hurley, Vice-President; C. E. Erickson, Treasurer; and A. B. Holmes, Secretary.

In 1917 the company's officers are Simon Florsheim, Chairman of the Board of Directors; John D. Hurley, President; Ralph S. Cooper, Vice-President; Fletcher W. Buchanan, Secretary; and Edward G. Gustafson, Treasurer.

Both the Aurora and Chicago plants are of the most modern type, with sub-

stantial buildings well equipped in every particular. The Chicago institution produces the celebrated and widely used Thor Motorcycles, while the well known brand of Thor Pneumatic and Electric Tools are produced at Aurora. The annual sales of these products have now attained to an aggregate of three million dollars, and a large export trade has been developed.

The Company now retains as its able Consulting Engineer, Mr. Axel Lev-edahl. The general offices are located in the Thor Building, 1307 South Michigan Avenue, Chicago, Illinois. Individual mention is made of officials in the following paragraphs.

SIMON FLORSHEIM

May 28, 1917, represented the eightieth birthday of this honored and influential pioneer citizen of Chicago, where he has maintained his home since 1857 and where he has long been a prominent factor in the larger and more important industrial and commercial life of the community. Mr. Florsheim has meant much to Chicago in connection with both civic and material progress, and with equal consistency may it be said that Chicago has meant much to him, for his loyalty and public spirit have ever been of the most insistent and appreciative order. He has large capitalistic interests aside from those represented in the Aurora Automatic Machinery Company, of which he is president, as noted in the foregoing article, and during the long years of his residence in Chicago he has wielded definite and benignant influence both as a citizen and as a man of splendid business ability, his name and achievement having become a very part of the city's history.

Mr. Florsheim was born in Romrod, Germany, on the 28th of May, 1837, and is a son of Isaac and Frederica (Weiler) Florsheim. In his native land he received in his youth good educational advantages, as gauged by the standards of the locality and period, and he was about seventeen years of age when he severed the ties that bound him to home and fatherland and set forth to seek his fortunes in America. He made Chicago his ultimate destination, and here, soon after his arrival, he became secretary of the Germania Fire Insurance Company, in the development of which he wielded definite influence, his incumbency of the office mentioned having continued until 1870. A man of marked initiative ability and resourcefulness, Mr. Florsheim has impregnated with the vital element of worthy success every enterprise with which he has identified himself within the sixty years of his residence in Chicago. In 1872 he became a member of the firm of Gimbel, Florsheim & Company, manufacturers of and wholesale dealers in hats, caps and furs, and with the same he continued his alliance until 1881 when, in the same line of enterprise, he established the firm of S. Florsheim, which later became S. Florsheim & Son and which finally developed into the present important manufacturing corporation, the Kabo Corset Company, of the directorate of which he is chairman, as is he also of the board of directors of the Independent Pneumatic Tool Company. As the foregoing article indicates, Mr. Florsheim has been one of the principal stockholders of the Aurora Automatic Machinery Company from the time of its incorporation, and he is now its president.



INDEPENDENT PNEUMATIC TOOL CO.
Factory. Aurora, Illinois

Mr. Florsheim has taken deep and loyal interest in all things touching the welfare and progress of Chicago and has given unswerving allegiance to the Republican party. He is one of the oldest and most revered members of the Standard Club, is affiliated with the Masonic fraternity and he and his wife now resides at the Chicago Beach Hotel, one of the fine residential hotels of Chicago.

On December 22, 1861, was solemnized the marriage of Mr. Florsheim to Elizabeth Friesleben, of Chicago, and the five children of this union are Norman S., Sidney E., Isabel Rosalie (Mrs. A. August Gatzert), Isaac S., and Leonard S.

JOHN D. HURLEY

A preceding article gives adequate data concerning Mr. Hurley's alliance with the Independent Pneumatic Tool Company, of which corporation he was elected President in 1917. Prior to his election to the Presidency, he had filled the office of Vice-President since 1905. Mr. Hurley is a scion of a sterling Irish family, and was born at Simsbury, Hartford County, Connecticut, on the 10th of January, 1862. He received his early education in the public schools of Galesburg, Illinois, and as a young man he found employment in railroad shops, from which he advanced eventually to the position of locomotive engineer. He has been a resident of Chicago since 1897. For the past twenty years he has been associated with the pneumatic tool business, and in the manufacture of motorcycles, being Vice-President of the Aurora Automatic Machinery Company.

In 1900 Mr. Hurley wedded Miss Mary Ferris, of Kewanee, Illinois, and they reside at 652 Buena avenue. He is a popular member of the Chicago Athletic Association and is a man of broad and varied technical experience in mechanical lines, through which medium he has been a valuable factor in promoting the growth and development of the large industrial enterprises with which he is identified.

FLETCHER W. BUCHANAN

Fletcher W. Buchanan is secretary of the Independent Pneumatic Tool Company, and the Aurora Automatic Machinery Co., which are numbered among Chicago's largest manufacturing industries. Mr. Buchanan was born at Marshall, Michigan, on March 12, 1880, being the son of Royal R. and Elizabeth S. Buchanan. The family moved to Indianapolis, Indiana, in 1884, where the son attended the public schools, and Professor East's College. His business career started at Indianapolis, with the Indiana Bond Company. His succeeding connections were with the Indianapolis Foundry Company, as paymaster; Indianapolis Bicycle Company as auditor, the White House Grocery Company as proprietor, and the Automatic Grip Neck Yoke Company, as Vice-President. He came to Chicago in 1901, and entered the Sales Department of the Standard Pneumatic Tool Company and when this concern, in 1902, was absorbed by the Chicago Pneumatic Tool Company, he went with the latter corporation. He was

one of the organizers of the Dayton Pneumatic Tool Company, in 1904, and held the position of Secretary and General Manager of that company until October 1908, when he became Secretary and General Sales Manager for the Vacuum Cleaning Company. In October, 1909, he was made Secretary of the two Companies with which he is now connected. Mr. Buchanan's identity with the Pneumatic Tool industry dates back sixteen years, during which time he has become known to users of these appliances throughout the United States and foreign countries.

OXWELD ACETYLENE COMPANY

The Oxweld Acetylene Company, whose large Chicago factory is located at Thirty-sixth street and Jasper Place, also operates an extensive manufacturing establishment at Newark, New Jersey, both devoted exclusively to the building of Pilot Acetylene Lighting and Cooking Plants for country homes, and Oxweld Apparatus for the welding and cutting of metals by means of the oxy-acetylene process.

The Company was incorporated, under the laws of West Virginia, March 1st, 1912, and since that time has developed a large and prosperous enterprise, through effective executive management and a broad policy of betterment and service to the industries it serves.

The products of the company are sold directly to the user, through its own sales organizations. In the welding and cutting department of the business, highly trained sales engineers are located in all the important industrial centers of the United States, with practical expert Servicemen attached to each office, and through its broadly conceived engineering and technical research departments has contributed much of conspicuous value to the metal working industries of the nation.

The House Lighting Department likewise, through a large body of resident salesmen, serves practically every agricultural state in the Union.

The officers of the Company are M. J. Carney, President; P. A. Rose, Vice-President; R. R. Browning, Manager, with headquarters in Chicago; L. A. Swan, Treasurer, and J. A. Knapp, Secretary.

WILLIAM S. TOTHILL

The resourcefulness and initiative energy that make for successful achievement in new fields of industrial enterprise have been significantly exemplified in the career of Mr. Tothill, who is known and honored as the American pioneer in the manufacture of apparatus for public playgrounds, gymnastic sports and athletic fields, as well as nursery furniture. Under his individual name is conducted the extensive and well ordered manufacturing business that was established by him in a modest way more than forty years ago and that has grown to be the most important enterprise of its kind in the United States. The well equipped manufacturing plant of W. S. Tothill is situated at Webster avenue,

Wood street and Elston avenue, and the major number of the high-grade products are patented devices that owe their origin to Mr. Tothill and his son, and the trade of the concern extends into all parts of the United States, as well as into nearly all foreign lands. Among the principal products of the factory may be noted Tothill's patent standard lawn swings and canopies, Tothill's patent athletic slides for the amusement of children, Tothill's patent "Bump the Bumps," and patent Teeter Totter; Tothill's patent merry-go-rounds, safety rocking boats, galloping horses, baby jumpers and baby yards, combination gymnastic frames for home use, store playgrounds of varied and unique designs, Tothill's patent improved circle bar (revolving parallel bars) for playground use, Tothill's improved giant strides, patent rope swings and steel frames, patent baby swings, and innumerable and interesting appliances for public and private playgrounds, including the Tothill patent playground athletic slide, which has met with specially high approval. Of the development of this gracious industrial enterprise, which makes most pleasing provisions for the entertainment of children, more definite data are revealed in the appending review of the career of the honored and popular founder, William Searl Tothill, America's pioneer in the devising and manufacturing of playground apparatus and nursery furniture.

The founder of the business briefly described in the preceding context may be said to have made the initial move toward the establishing of his industrial enterprise when, in 1876, he began operations in a woodshed that was one hundred and twenty feet square and that was established at what is now 1815 Webster avenue, on the site of his present factory. Mr. Tothill had invented and patented a baby swing of a design to insure safety to the occupant, and from his little workshop in which he turned out the first of these swings had been developed an enterprise that is not excelled in scope and importance by any other of similar order in America. The success that attended the introduction of his first type of baby swings led him to invent and patent with the passing years innumerable other devices for the care and amusement and development of children, and it is interesting to record that of his devices there are fully sixty on which he has received letters patent. The expansion of his little manufacturing business soon compelled Mr. Tothill to increase his factory space and facilities, and the first definite plant was composed of frame buildings that later were to be superseded by one of the modern and well equipped industrial buildings of Chicago, the same being of brick construction. The present plant affords an aggregate floor space of seventy-five thousand square feet, and from the lone workman employed in 1876 the force of employes has been gradually augmented until the number is now one hundred and fifty. The first year's production of the baby swings numbered five hundred, while the year 1916 recorded the manufacture and sale of one hundred thousand of the swings, which were distributed throughout the various sections of the Union, besides which the factory turned out an equally noteworthy production of the various other devices for which the name of Tothill has become famous. The province of the business was amplified from year to year and the foregoing article indicates in a measure the splendid variety of such products. The Chicago public schools and those in most of the other leading cities of the Union have had their playgrounds equipped from the Tothill factories, and from the beginning there has been an insistent deter-

mination to make every production of the highest grade possible to be obtained in mechanical construction and enduring qualities. Through popular commendation and the use of catalogues and circulars the business has been developed to its present large volume, and Mr. Tothill has at no time employed traveling salesmen. He is the friend and lover of all children and it has been a matter of deep satisfaction to him that he has been able to provide means for the entertainment of the youngsters, to whom he has proved a practical benefactor during the long years of his **strong and meritorious** business career.

William Searl Tothill was born in Birmingham, England, on Christmas day of the year 1845, and is a son of Richard Searl Tothill, the latter's paternal grandfather having been distinguished through service as lord mayor of London, and Tothill road and other places have been named in his honor in the world's greatest metropolis. The subject of this review was about six years of age at the time of the family immigration to the United States, in 1852, and the new home was established in the city of Pittsburgh, Pennsylvania. The father there engaged in the manufacturing of glass, but his death occurred within a short time after he came to America. The widow and children then removed to Lockport, New York, and there William S., after his school days, was apprenticed to learn the trade of wheelwright, in the shops of the Richmond Manufacturing Company. He continued his educational work by attending night schools. Shortly after the Chicago fire of 1871 Mr. Tothill came to this city and engaged in business as a contractor and builder. He carried on operations upon a somewhat larger scale than his financial resources warranted, and the result was that he finally failed in business. This ill success but stimulated him to new and more determined action and led him incidentally to perfect the patent on which was based the great business enterprise which has since been built up under his able supervision. Though he has passed the psalmist's span of three score years and ten he lacks not a whit of his pristine vigor and still gives active supervision to his important business interests. In all things pertinent to the civic and material welfare and progress of Chicago his civic loyalty has been shown unequivocally and his attitude has always been that of a broad-minded and progressive citizen. A stalwart advocate and supporter of the principles of the Democratic party, he has contributed in active serverance to the furtherance of its cause and has been influential in political affairs in his home ward. He has frequently been importuned to become a candidate for municipal office and consistently refused, though his acceptance would have been tantamount to election. He is liberal in support of church work and charitable and benevolent objects and in all the relations of life has shown a high sense of personal stewardship.

In the year 1875 was solemnized the marriage of Mr. Tothill to Miss Mary Isabelle Snowhook, who was born and reared in Chicago and who is a daughter of the late Colonel William Bergen Snowhook. Of the four children of this union three are living,—William Robert, Lillian Eleanor and May Florence.

William R. Tothill has been closely and influentially associated with his father's business and has vied with his honored sire in the devising of useful inventions in connection with the enterprise, a number of the patented inventions manufactured by the concern being the result of the allied thought and action of father and son.

William Robert Tothill was born in Chicago on the 4th of October, 1876, and after having profited fully by the advantages of the public schools he entered the Illinois College of Law, in which he was graduated as a member of the class of 1902 and from which he received the degree of Bachelor of Laws. He has never entered actively into the practice of the profession for which he thus prepared himself but has found his technical knowledge of much value in connection with business affairs, his study of law having been pursued primarily for this purpose. He is a director and superintendent of the business of the W. S. Tothill manufactory and in later years has assumed much of the responsibility in connection with the executive affairs of the business, with all details of which he has thoroughly familiarized himself. He holds membership in the Showman's League of America, is a Democrat in his political proclivities, his name is still enrolled on the list of eligible bachelors, and he remains at the parental home. Mr. Tothill was the inventor of the famous Tothill athletic slide, which has proved one of the most popular devices placed on the market by the Tothill manufactory.

BODINE ELECTRIC COMPANY

Under the above corporate title has been developed one of the substantial industrial enterprises which can be claimed by Chicago in connection with applied electricity, and a substantial business has been evolved by the company in the manufacturing of the finest type of electric motors of varied types and applicable to varied purposes.

The business of the Bodine Electric Company dates its inception back to the year 1905, and its founders were Carl D. and Paul J. Bodine, who began operations under a copartnership arrangement. With the growth of the business it became eventually expedient to incorporate the same, and this action was taken in 1914, when Carl D. Bodine assumed the office of president of the company and Paul J. Bodine that of secretary and treasurer. In 1905 the two brothers equipped a small factory in a building at the corner of Madison and Canal streets, where was available a floor space of twelve hundred square feet and where the original corps of employes numbered only four. Here the brothers engaged in the manufacturing of electrical specialties, largely in a general contract way. Energy, ability and perspicacity brought concrete results in the success that attended the new enterprise, and in 1907 removal was made to larger quarters in the same building. Here the floor space was increased to thirty-five hundred square feet and the force of employes raised to eight, not including the two brothers, who applied themselves to practical work with more zeal and for longer hours than were demanded of their employes. In the year 1906 the brothers had jointly perfected and patented improved parts for electric motors, and practical results demonstrated that motors supplied with these special parts or accessories were far superior in many ways to the average electric motors then in use. In 1907 was instituted the manufacturing of the Bodine motors, in connection with other general operations in the establishment of the company, and so distinct was the approval given to the motors both by authoritative judges and through popular

estimate that this branch of the business rapidly expanded in scope and made necessary larger and better manufacturing facilities. Under these conditions seven thousand square feet of floor space were acquired in a building at the corner of Randolph and Jefferson streets, and in 1912 all other lines were discontinued to enable the company to give entire attention to the manufacturing of the Bodine motors, for which there was a constantly increasing demand. With a force of twenty skilled mechanics operations were continued on a larger scale in the new location, and the company continued in the quarters at Randolph and Jefferson streets for five years. The ultimate metewand of success is growth in connection with any normal industrial enterprise, and such success attended the company, with the result that it became finally requisite to provide an enlarged and modernly equipped factory. In 1914 the company purchased property at the corner of Ohio and Oakley avenue and there erected the present modern industrial plant, the building having been designed and equipped specially for the purpose to which it is applied. Prior to this the company had established its headquarters at 2254-58 West Ohio street, and there operations were continued until 1915, when possession was taken of the new plant, which is unexcelled by any other devoted to the manufacturing of electric motors in the entire middle west. Here is afforded an aggregate floor space of twenty-one thousand square feet, the building being two stories in height and so constructed that additional stories may be added when demanded, besides which the company holds ownership of sufficient land to make possible the erection of additional buildings or extensions. In the factory employment is given to a force of forty-eight persons, the greater number of whom are skilled mechanics. The Bodine motors are models of perfection in construction and practicability and their superiority has brought them into demand in all parts of the United States, as well as in many foreign countries, a regular export trade having been established in England, Norway, Australia, France, Cuba and South America, besides which a large business is controlled in the Canadian provinces.

Prior to the development and introduction of the Bodine motors the manufacture and sale of fractional-horsepower electric motors in the United States had been very limited, and the Bodine Electric Company is one of only four in the Union that specialize in the manufacture of this type of motors. Of the expansion of the industry an idea is conveyed in the comparative records of the passing years. In 1912 the aggregate business of the Bodine company was not in excess of twelve thousand dollars; that of 1916 amounted to one hundred and twenty-five thousand dollars; and the year 1917, as judged by results thus far, is destined to exceed this amount greatly. The company maintains sales offices and show rooms in Boston, New York, Cincinnati, Detroit and Minneapolis. A large part of the business is done through the medium of the excellent catalogues issued by the company and a number of traveling salesmen is also retained in the introduction of the goods.

Among the varied types of Bodine motors are those of interchangeable order, available for both direct and alternating currents and varying from one-tenth to one-fourth horsepower; slotted-base motors for alternating current; small direct-current motors; direct-current laboratory lathes and dental motors; direct-current bench grinders; Type E direct-current motors vary-

ing from one-eighth to one-sixth horsepower; and intermittent-service motors for both alternating and direct currents.

CARL D. BODINE

The president of the Bodine Electric Company was born in the laen of Carlstad, Sweden, and is a son of John P. and Wilhelmina (Johansson) Bodine, who came with their family to America in 1887, the home being established at Loomis, Phelps county, Nebraska. There the father, a carpenter by trade, followed his vocation as a contractor and builder until 1902, when he came to Chicago and engaged in the same business, with which he continued to be actively identified until his death, in 1915, his wife having passed away in 1907.

Carl D. Bodine acquired his youthful education in the public schools of Nebraska, whence he came to Chicago in 1898. Here he entered the employ of the Stromberg Telephone Company, and in this connection he acquired a thorough knowledge of practical electrical mechanics. After having been for several years in the service of this company Mr. Bodine took a three years' course in electrical engineering and other higher scientific lines in Lewis Institute, in which institution he was graduated. Thereafter he was for some time in the employ of Roth Brothers, of Chicago, and later he was employed two years by the Kellogg Switchboard Company. He then became associated with his brother Paul in organizing the firm from which has been developed the present Bodine Electric Company, the history of which has been outlined in a preceding article. The brothers have achieved success entirely through their own ability and efforts and have gained secure place among the substantial exponents of manufacturing industry in Chicago. Carl D. Bodine is aligned with the republican party and is a members of the Western Efficiency Society. In 1912 he wedded Miss Emma C. Anderson, of Chicago, and they have two sons, Harold and Royal.

PAUL J. BODINE

The younger of the two brothers whose effective alliance has resulted in the upbuilding of the substantial business of the Bodine Electric Company, Paul J. Bodine, who is secretary and treasurer of the company, was born at Upsala, Carlsted, Sweden, on the 22d of June, 1883, and thus he was about four years old at the time of the family immigration to the United States, in 1887. At Loomis, Nebraska, he was reared to adult age and duly profited by the advantages of the public schools. In 1901 he came to Chicago and entered upon an apprenticeship in the factory of the Stromberg Telephone Company, with which concern he continued three years, during which he gained a practical knowledge of electrical engineering. In 1904 he entered the employ of the Reynolds Dull Flasher Company, manufacturers of automatic electrical switchboards, and he was placed in charge of the department devoted to the man-

ufacturing of electrical specialties. With this company he continued his services until he formed the partnership with his brother and became one of the founders of the company of which he is now secretary and treasurer. The Bodine Electric Company is represented in membership in the Chicago Association of Commerce, and the Electric Power Club, and Illinois Manufacturers Association, Paul J. being also actively identified with the Jovian League.

CHICAGO FUSE MANUFACTURING COMPANY

An important field of industrial enterprise is that effectively covered by the corporation whose title initiates this paragraph and the headquarters of which are established at 1014 West Congress street, the plant being one that in its scope and modern equipment makes it adequately available for the manufacturing of the extensive and varied line of "Union" electrical protecting materials, conduit fittings, etc., for which the concern has gained a national reputation, with a trade that extends into all sections of the Union. The New York branch of the company is located at 1 Hudson street, and from the same is directed the extensive business of the concern in the eastern states. The company's attractive combination catalogue, No. 28, replaces the separate catalogues that had previously been issued, as covering electrical protecting materials and stamped-steel switch and outlet boxes, and in its compact and comprehensive form it offers to the trade a most convenient vehicle of detailed information.

The Chicago Fuse Manufacturing Company dates its organization from the year 1889, when it was duly incorporated under the laws of Illinois, with a capital stock of \$25,000. The original officers were Arthur D. Dana, president and treasurer, and Herbert E. Goodman, secretary. The splendid development that has attended the business is signalized in the fact that the capital stock has been increased to \$300,000 and that the productive increase has been on a parity with this expansion of the financial investment. Mr. Dana continues as president and treasurer of the company to whose upbuilding he has given the best of his characteristic initiative and executive ability; William W. Merrill is now the vice-president and assistant treasurer; and George C. Reid is the secretary. The organization is strong in both capitalistic and administrative reinforcement and the company is properly represented in this publication as one of the important industrial concerns lending to the commercial pre-eminence of Chicago. The goods of the company find a market in all parts of the United States, as previously stated, and a substantial trade is controlled also in the Canadian provinces and in South America. All special products are covered by patents, as are also many of the mechanical devices utilized in the manufacturing, and the company controls the patents under contract agreements in numerous instances. The floor space demanded by and in commission for the accommodation of the various departments of the plant aggregate about seventy-five thousand feet, employment is given in the establishment to a force of four hundred persons, and the building utilized is six stories in height. The trade-mark or title of "Union" is applied to the manifold devices manufactured by the company, and among the leading products may be noted the following: Non-



ARTHUR D. DANA

arching enclosed fuses; enclosed fuse cut-outs; cut-out fittings; fuse material and specialties for automobiles; telegraph, telephone and fire-alarm protectors; fuse links of many types; telephone fuses and blocks; conduit fittings, including outlet boxes and covers, concrete boxes, switch and tandem boxes, bushings, etc. In each of these specific lines are turned out many different designs, with varying dimensions and special functions, and the catalogue previously mentioned gives detailed information of sufficiently comprehensive character to meet all requirements on the part of buyers.

ARTHUR D. DANA

The president of the Chicago Fuse Manufacturing Company has gained for himself a definite vantage-ground as one of the progressive exponents of industrial and commercial enterprise in the western metropolis and has been the dominating force in the development of the important enterprise of which he has been the executive head from its inception. He was born at Marietta, Ohio, in 1861, and after having availed himself of the advantages of the excellent educational institutions of the old Buckeye state he manifested his ambition and good judgment by coming to Chicago and initiating the productive service that was to bring him eventually to the goal of success and influence in the industrial world. For a time he was employed as cashier and bookkeeper in the office of the Link Belt Company, of which he eventually became treasurer. In 1899 he severed his connection with this Chicago corporation, and in the meanwhile, about ten years previously, he had effected the organization of the Chicago Fuse Manufacturing Company, with the understanding that he would devote the major part of his time and attention to the affairs of the same, the while he continued his connection with the Link Belt Manufacturing Company. He has achieved large and worthy success in the domain of industrial enterprise and aside from his important Chicago interests he is vice-president of the Sperry Gyroscope Company, of Brooklyn, New York. This company manufactures a new and effective stabilizing device for use on submarine vessels, and the same has proved wonderfully successful in its operation,—a special demand for the mechanism being incidental to the construction of such boats for use since the United States has declared itself at war with Germany. Though Mr. Dana gives a careful supervision to his Chicago business interests he has maintained his residence in the city of Brooklyn, New York, since 1903. He is one of the principal stockholders in the Goodman Manufacturing Company of Chicago, and is a member of the Engineers' Club of New York city. In 1896 he married Miss Alice A. Smith, of Cleveland, Ohio.

WILLIAM W. MERRILL

The vice-president and assistant treasurer of the Chicago Fuse Manufacturing Company has been connected with this concern since 1894,—about two years

after he had established his home in Chicago. He was born in Massachusetts, in the year of 1873, and his early educational discipline included an effective course in one of the leading business colleges of the east. For somewhat more than two years he was employed in the office of the superintendent of the Boston & Maine Railroad, in the city of Boston. In 1892 he came to Chicago and entered the employ of the Illinois Steel Company, with which he thus continued until 1894, when he initiated his association with the company of which he is now vice-president. His first position with the Chicago Fuse Manufacturing Company was that of office cashier, and the efficiency of his service soon brought to him promotion. For some time he served as secretary of the company and he has been its vice-president and assistant treasurer since 1910. Mr. Merrill has become a thorough exponent of Chicago vitality and spirit, and in addition to his connection with the Chicago Fuse Manufacturing Company he is a stockholder in the Goodman Manufacturing Company. He is identified with such representative organizations as the Chicago Athletic, the Union League, the South Shore Country, the Woodlawn Park, and the Olympian Fields Country Clubs, in the last mentioned of which he finds opportunity to express his enthusiasm and skill as a devotee of golf, besides which he finds recreation in the game of bowling.

In 1898 Mr. Merrill wedded Miss Bessie E. Porter, of Chicago, and their residence is at 6527 Woodlawn avenue.

UNDERWRITERS' HATCH DOOR COMPANY

In connection with the exploitation of its remarkably valuable and important products this Chicago corporation has adopted the consistent slogan, "Don't overlook the best," the company being sole owners and manufacturers of the "Lion" fire doors, which are a recognized standard of excellence and which have the official approval of the National Board of Fire Underwriters and the Associated Factory Mutuals. "Lion" doors have stood the test during a period of many years and thus have proved in themselves the most effective medium of advertising their efficiency in the manifold places in which they have been applied as an integral part of modern architectural provisions for the prevention of loss through fire. The high-grade and specially designed and constructed products of the factory of this company include Standard tin-clad fire doors and window shutters; automatic hatch doors, elevator gates and closing devices; fire-retarding doors for elevators, stairways, firewalls and for any and all other purposes requiring such protective appurtenances; fire-door hardware; fusible links, thermostats, etc. The Standard tin-clad doors manufactured by this company are built under the supervision of the Underwriters' Laboratories, Incorporated, and bear their labels, this implying regular inspection on the part of the corporation noted. Of the distinctive points of superiority in the "Lion" fire doors due recognition is given, as may be inferred from the following pertinent statements concerning them: They are built to meet the requirements of the New England Mutuals and the Associated Factory Mutuals; are guaranteed to pass the inspection of local inspection bureaus; are equipped with proved hardware which is acceptable to the National Board of Fire Underwriters and the Associated Factory Mutuals;



W. W. MERRILL

are constructed of the best of materials and by skilled workmen; are built in a plant specially equipped for the turning out of fire doors and fire-door equipments only; and their use involves a definite reduction of insurance premiums.

The Standard tin-clad fire doors are constructed of three thicknesses of white pine, seven-eighths by six inches, surfaced on both sides and center matched, the outside layers running vertically and the inner layer horizontally. The Standard tin-clad window shutters are constructed of two thicknesses of pine and both doors and shutters overlap the opening four inches at each side and the top. Prime terne plate is utilized as the metal covering of both doors and shutters; corners of doors are covered with a mitre fold, each corner taking a whole sheet of tin without cutting. All joints are locked and nailed under seams, no solder being allowed. All verticle seams are made with double-lock joint and similar provision is made for the horizontal seam at top of door, other horizontal seems being of single-lock joint. These provisions are in accord with the specifications adopted by the Underwriters' Laboratories, Incorporated, for the National Board of Fire Underwriters. The "Lion" Standard door is unequivocally the simplest and best device of the kind in use. The door is hung on track inclined three-fourths of an inch to the foot and is counterbalanced by means of a weight attached to the door with a sash cord and fusible link. The melting of the link-drops off the weight and the door closes from force of gravity. Front and back bumpers and rope sheave are attached to the track, thus saving the expense of drilling holes through the wall and furnishing wall bolts. The company makes provisions also for the adding of minor features demanded by different local inspection boards. The hardware specialties used in the installation of the Standard doors and shutters are of special design in many instances and all meet the fullest requirements of insurance underwriters, the doors being produced for both lateral and vertical sliding action.

The improved self-closing elevator gate manufactured by the Underwriters' Hatch Door Company is recognized as one of the simplest and most reliable gates on the market and always remains closed until opened by hand, there being no possibility of raising the gate until the elevator is at the landing. These gates are built in sizes to meet all requirements. The automatic hatch doors produced by the company are of the same high standard of construction and efficiency and their use for elevators and stairways assures liberal reduction in insurance rates.

The Underwriters' Hatch Door Company was organized in 1887, by John W. Hepburn, who forthwith effected its incorporation under the provisions of the laws of Illinois, the capital stock being placed at one hundred thousand dollars. The original fire door manufactured by the company was covered by patents owned by the new corporation, and the first factory was located at the corner of Jefferson and Lake streets and in the earlier period of operations the products were sold almost entirely in Chicago and the immediate tributary territory. Notwithstanding the great practical value and utility of the fire doors manufactured, the business did not specially expand under the original regime of administration, but in spite of somewhat ineffective management the enterprise so increased that it became necessary to obtain larger quarters, the plant being finally removed to a building on Fifth avenue, near Polk street, where requisition was made for two thousand square feet of floor space, the facilities of the factory

being increased and also the number of operatives. The first decade was marked by somewhat desultory progress, but in 1897 John L. Lyon purchased the Hepburn interest in the business and instituted a most vigorous and progressive administration under which the enterprise rapidly expanded in scope and importance. Mr. Lyon has since continued at the executive head of the industry and has made it a prominent and valuable contribution to the manufacturing and commercial activities of the western metropolis.

Upon the general reorganization that was effected in 1897 Mr. Lyon became president of the company and Jacob Kenegy its secretary and treasurer. Mr. Kenegy continued the incumbent of the offices noted until his death, in 1904, and he was succeeded by the present incumbent, Clarence R. Carr. In 1900 the manufacturing plant was removed to a building at the corner of Jefferson and Fulton streets, where forty-eight hundred square feet of floor space were demanded for the accommodation of the various departments of manufacturing and where the average force of employes numbered about twenty. At these headquarters the company abandoned the manufacturing of the original type of elevator hatch-doors and adopted the present "Lion" automatic fire doors, besides adding to the productive output of the factory a complete line of accessories used in installation and operation of the doors and shutters. From a business of limited ramifications the enterprise has been so expanded under the present effective control that its trade now extends into all parts of the United States. In 1909 the plant was removed to its present location, at 1745 Walnut street, where is utilized an aggregate floor space of twenty-five thousand square feet, and where the productive facilities include the best of modern machinery and working accessories. The business for the year 1897, marking the reorganization of the enterprise, aggregated about twenty-five thousand dollars, and the splendid progress that has since marked the business is shown in the fiscal statement of a business that for the year 1916 was in excess of one hundred thousand dollars, while that of 1917 will show an appreciable increase.

JOHN L. LYON

John L. Lyon, president of the company concerning which record is made in the preceding context, was born at Fall River, Massachusetts, on the 28th of October, 1851, and is a son of George G. Lyon, who likewise was a native of the old Bay State and who became a pioneer settler in Illinois, the family home having been established at Rockford, this state, in 1855. John L. Lyon was about three years old at the time of the family removal to Illinois and his early educational discipline was obtained in the public schools of Rockford. Thereafter he attended the high school in Chicago and in furtherance of his higher academic discipline he entered the University of Illinois, in which institution he was graduated as a member of the class of 1872 and with the degree of Bachelor of Science. After leaving the university Mr. Lyon became actively associated with railway service, in which connection he won promotion, and for many years he served as conductor of passenger trains,—principally in the employ of the Chicago & Northwestern Railroad and the Illinois Central Railroad. Upon

severing his association with railway service he identified himself with the manufacturing industry of which he is now the executive head, and he has gained secure vantage-ground as one of the successful and representative exponents of industrial enterprise in the great metropolis of the west. He is affiliated with the Masonic fraternity and is an appreciative and popular member of the Chicago Athletic Association in 1883 Mr. Lyon wedded Miss Rose Kyle, who was born at Freeport, Illinois, and who died when about 68 years of age, leaving no children.

CLARENCE R. CARR

Clarence R. Carr, secretary and treasurer of the Underwriters' Hatch Door Company, was born at Freeport, Illinois, on the 25th of June, 1880, and in 1890 his father, Charles C. Carr, established the family home in Chicago. Clarence R. Carr acquired his earlier education in the public schools of Freeport and after the family removal to Chicago he continued his studies in the schools of the suburb of Oak Park until he had completed a course in the high school. At the age of seventeen years he entered the employ of a wholesale clothing house, that of Clement, Bain & Co. where he became proficient in connection with the manufacturing department of the business. Later he was similarly engaged with the well known Chicago clothing manufacturing house of Hart, Schaffner & Marx, and his alliance with this concern continued until he became associated with the company of which he is now secretary and treasurer. Mr. Carr has made advancement in the business world entirely through his own ability and efforts and has achieved worthy success.

In 1906 was solemnized the marriage of Mr. Carr to Miss Stella Branch, of Chicago, and they have one child, Marjorie, who was born in the year 1910.

THE NATIONAL GALVANIZING COMPANY

The title of this corporation indicates the nature of the industrial enterprise which it represents, and the business has grown to substantial volume under correct and progressive policies and the best of technical management. But there is a most interesting incidental story connected with the record of the company, for it was founded by one of the able and honored veterans of industrial enterprise in Chicago, Henry Koester, who was for nearly forty years one of the valued employes of the Crane Company, which controls one of the great industries of Chicago, and it was primarily for the purpose of giving to his eldest son a proper induction into the industrial field of the western metropolis that Mr. Koester provided the requisite capital and fortifying executive direction to establish upon a substantial basis the new enterprise to be conducted under the corporate title of the National Galvanizing Company. The enterprise dates its inception from the year 1901, and the company was incorporated under the laws of Illinois, with a capital stock of twelve thousand dollars. Henry Koester has been president of the company from the time of incorporation, but not until

1913, when he resigned his responsible position in the employ of Crane Company, did he assume active administrative association with the company which he had founded, his wife being vice-president and their eldest son, Henry G., being secretary and treasurer, so that the organization is definitely a family corporation. The Company instituted manufacturing operations and well equipped quarters at 1918 Carroll avenue, and the enterprise has been significantly successful, as demonstrated in its substantial expansion from year to year and by the important scope of the business at the present time. The plant utilizes an aggregate floor space of about 15,600 square feet and the corps of employes averages about thirty men. The products of the concern are now sold principally in Chicago and the states of the middle west, and the record for the first fiscal year showed a profitable business, but the annual sales since that time have been increased fully fourfold, with average transactions of approximately two hundred thousand dollars. The company has membership in the Illinois Manufacturers' Association, the Manufacturers' & Dealers' Association of Chicago, and the Chicago Credit Men's Association. In an appending article is given a brief review of the signally earnest and active career of the founder of this prosperous enterprise.

HENRY KOESTER

Henry Koester, founder of the National Galvanizing Company and a veteran employe of the great industrial corporation known as the Crane Company, has been a resident of Chicago from the time of his birth and has rendered good account of himself as a man of sterling character, as one of the world's productive workers and as a loyal and public-spirited citizen. Mr. Koester was born in Chicago on the 6th of September, 1857, and is a son of John C. and Mary Amalia (Schultz) Koester, who immigrated from Germany to America immediately after their marriage and who established their home in Chicago ere the waning of the honeymoon period. John Koester was a skilled artisan as a cabinetmaker, and he continued following the work of his trade in Chicago until his death, in 1891, at the age of sixty-four years. He was a man of unassuming worth of character, a good citizen and a worthy exponent of industrial enterprise, both he and his wife having been earnest members of the Evangelical church. Mrs. Koester survived her husband by more than a quarter of a century and was eighty-four years of age at the time of her death, in 1917.

In the parochial and public schools of Chicago Henry Koester acquired his youthful education, and he was not yet thirteen years old when, in April, 1870, he secured employment in the retail store of Field, Leiter & Company, the predecessor of the great mercantile house of Marshall Field & Company. His stipend was two dollars a week, and this compensation was later increased by fifty cents, but in the autumn of the same year he gave up his work in order to attend school during the winter months, in consonance with the wishes of his parents. In the following spring he found employment in a restaurant, and he was thus engaged at the time when the great fire of 1871 brought devastation to Chicago, with attendant interruption of all lines of business. Within a short time after the work of rebuilding the prostrate city had been initiated Mr. Koester entered

upon an apprenticeship in the machine shop of Crosby & Meeser, in a building at the corner of Jefferson and Lake streets. While thus serving an apprenticeship to the trade of machinist Mr. Koester supplemented his education by attending night school, including a local business college. After remaining several years with the firm mentioned Mr. Koester entered the employ of what is now the Crane Company, various changes in the corporate title having been made from time to time before the present name was adopted. It was in August, 1873, that Mr. Koester began work in the pipe mill of the Crane Company, at Fulton and Desplaines streets, and his energy and ambition attracted the attention of the late Richard T. Crane, who became his honored friend and patron and who gave him opportunity for consecutive advancement. He was eventually placed in charge of this pipe mill, and here he continued his effective services until 1905, when removal was made to the new and modern mill, at Fifteenth and Rockwell streets. In this plant he continued his executive and technical activities until 1913, when, after a continuous service of forty years, he resigned his post with the Crane Company. From the house magazine published by this great corporation are taken the following significant extracts:

"Having been in the employ of the Crane Company, faithfully and continuously, for nearly forty years, Mr. Henry Koester was the honored guest at a banquet tendered him at the Hotel LaSalle, on April 15, 1913, by the officers, directors and superintendents of the company. The occasion was the retirement of Mr. Koester from the Crane industrial family. From a lad of fifteen, 'doing all kinds of jobs around the place,' Mr. Koester has defeated every obstacle that threatened to obstruct his rise to the head of one of the largest and most important divisions of the great Crane works,—the pipe mill. Thereafter, from time to time, Mr. Koester assumed the roles of machinist, blacksmith, fireman, engineer,—in fact became familiar with every division of the mill,—thus acquiring a knowledge that later was found to be indispensable. In 1889 crude oil was first used as a fuel for welding, and under the guidance of Mr. Koester the Crane Company was the first to experiment successfully with this process. The little mill at Fulton and Desplaines finally outgrew itself and in August, 1905, the plant was removed to its present location, at Fifteenth and Rockwell streets, Mr. Koester being retained as superintendent. Being of German lineage, one of Mr. Koester's chief characteristics is perseverance. Armed with this heritage, he has been able to conquer where others might have failed. His retirement from the Crane Company, however, does not mean that he will be a gentleman of leisure in the years to come. On the contrary, he will devote his attention to his own business, the National Galvanizing Company, and in this venture he has the confidence and good will of his former co-workers and host of friends."

It may consistently be noted that it was with the full approval and encouragement of the late Richard T. Crane that Mr. Koester established the independent industrial enterprise of the National Galvanizing Company while still in the employ of the Crane Company, and his executive service with the corporation of which he is president is largely in an advisory capacity, his broad experience and mature judgment making his influence specially potent and valuable. Mr. Koester takes deep and well merited pride in his possession of the medal and badge of honor known as the Veteran League badge, the same having been pre-

sented to him by the Veteran League composed of those who have been in the employ of the Crane Company for more than thirty-five years, and he reverts with great satisfaction to the kindly and helpful interest taken in him by the late Richard T. Crane, one of America's foremost and distinguished captains of industry. In politics Mr. Koester has ever been aligned as a loyal supporter of the cause of the Republican party and he and his wife hold membership in the Evangelical church.

May 13, 1880, recorded the marriage of Mr. Koester to Miss Anna Heidenfeldt, who was reared and educated in Chicago, and of their children the eldest is Henry G., who is secretary and treasurer of the National Galvanizing Company, as noted in foregoing paragraphs. He was afforded the advantages of the public schools and in the great plant of the Crane Company he learned the trade of machinist in a most thorough way, his association with this corporation having continued until 1901, when he became his father's coadjutor in the organization of the National Galvanizing Company, of which he has since been secretary and treasurer, as well as general manager. He was born in Chicago on the 4th of February, 1881, and is one of the vigorous and successful business men of the younger generation in his native city. The younger sons are Daniel J., Walter J., and Elmer, member of No. 339 Field Hospital at Battle Creek, Michigan; Sylvia, the elder daughter, is the wife of Julius Bjork, of Chicago; and the youngest member of the family home circle is the daughter Clara.

THE RIVERSIDE OIL COMPANY OF ILLINOIS

The basic corporation of which this representative Illinois company is an integral part includes also the Riverside Western Oil Company, of Tulsa, Oklahoma, and the parent organization, the Riverside Eastern Oil Company, of Pittsburgh, Pennsylvania. The general offices of the Illinois company are established on the thirteenth floor of the People's Gas Building. Mr. O. N. Owens is manager.

The Riverside Oil Company is the producer of the celebrated Marathon brand of gasoline and is also well fortified in its facilities for the refining and distributing of all petroleum products, including kerosene, naphtha, lubricating oils and greases. The company deals extensively in fuel and road oils of standard grades and is at all times prepared to ship such products promptly in tank-car lots, having equal provision for meeting demands for one car or fifty, as the case may be. The company's products in the line of all grades of lubricating oils and greases are well known to large consumers throughout the Union, and no order virtually can be of such large volume as to make impossible the prompt supplying of the same, while smaller shipments receive equally careful attention. The business of the Chicago offices is divided into three distinct departments,—the tank-car department, under the supervision of C. F. Mercer; the tank-wagon department, in charge of C. O. Baseler; and the department of lubricating oils and greases, assigned to the supervision of F. J. Kuehne. Mr. Owens, the general manager of the business emanating from the Chicago offices, thus has the effective co-operation of these efficient executives, each an authority in his re-

spective department. The company has two well equipped supply stations in Chicago,—one at 2130-37 Elston avenue, and the other at the corner of Thirty-fourth and Iron streets. The plant first mentioned utilizes twenty-two hundred and fifty square feet of space, with several hundred square feet of yardage for switch tracks. The station at Thirty-fourth and Iron streets occupies a ground space one hundred and fifty by two hundred feet in area, with five hundred feet of switch track connecting directly with the Chicago Junction Railway, the station on Elston avenue having similar connection with the tracks of the Chicago & Northwestern Railroad. Distribution to the large and representative Chicago trade, which includes many large consumers, is made through the medium of four auto trucks with tanks capacity of fifteen hundred gallons each, and eleven tank wagons drawn by horses. The company controls an extensive industrial enterprise in the refining of crude oil, and of natural gas, gasoline and besides being manufacturers of cup, journal, graphite, transmission, axle, cable and other lubricating oils and greases, together with other lines of the best grades of petroleum byproducts. The corporation has membership in the Western Oil Jobbers' Association and the Independent Oil Men's Association, the while the executives of the Chicago official staff hold membership in the Chicago Petroleum Club.

THE FÜRST-KERBER CUT STONE COMPANY

With quarry and mills at Bedford, Indiana, and Chicago offices at 2301 La-Salle street this corporation has unexcelled facilities for the quarrying, manufacturing and sale of the famous Bedford Oolitic lime stone, which is most extensively used in connection with architectural work of the highest grade, and the company has special pioneer prestige, as the business was founded nearly three-fourths of a century ago. In 1861 the firm of Fürst & Kerber was formed as a cut stone contracting firm, and after four years the alliance was severed. Thereafter the individual members of the firm continued in the same line of enterprise in an independent way until 1898. The partners established one of the leading stone yards of Chicago and both became prominent factors in the cut-stone industry of the Chicago district in the early '60s.

Henry Fürst, Sr., the senior member of this pioneer firm, was born at Ottweiler, Rhenish Prussia, on the 25th of July, 1832, a son of Jacob and Catharine (Brück) Fürst. In his native place he learned the trade of stone cutting, in his father's establishment, which included a quarry, and he was doubly orphaned when a mere lad. As a skilled journeyman at his trade he found employment at Saarbrücken, where he remained until 1853, on May 1st of which year he arrived in New York city. For some time thereafter he was employed at his trade in Akron and Cleveland, Ohio, and on the 1st of June, 1855, he established his residence in Chicago, where he was in the employ of the Illinois Stone Company until 1861, when he formed the partnership with Henry Kerber and established a stone yard. The firm of Fürst & Kerber continued operations until 1865, when the partnership was dissolved. Thereafter Mr. Fürst conducted his independent business, with a well equipped stone yard at the corner of Fifth avenue and Polk street, where he continued successful operations for a number of

years. He was one of the prominent exponents of this line of industry in Chicago until 1893, when he was succeeded by his son Henry and his cousin, Carl Fürst, and retired from active business,—a man of sterling character and one who had achieved worthy success in his long and vigorous business career. He continued his residence in Chicago until his death.

Henry Kerber, the junior member of the original firm of Fürst & Kerber, likewise was born and reared in Germany, where he learned the trade of stone-cutter. In 1855 he came to America and established his home in Chicago, where, in the year 1861 he formed the partnership with Mr. Fürst. From 1865 until his death, in 1895, he conducted a substantial and independent cut-stone business, his son, William L. Kerber, who entered as a copartner in 1884 having been associated with him in the business during the final decade, under the firm name of H. Kerber & Son. Upon the death of his honored father William L. Kerber assumed full control of the business, which he individually conducted until 1898, when he became one of the organizers of the Fürst-Kerber Cut Stone Company, which brought about an effective and pleasing coalition of the business interests of the two pioneer members of the original firm of Fürst & Kerber.

The Fürst-Kerber Cut Stone Company is incorporated under the laws of Indiana and bases its operations on a capital stock of five hundred thousand dollars, the officers being as here noted: William L. Kerber, president; Carl Fürst, vice-president; Henry Fürst, treasurer; and Robert E. Harrsch, secretary. For a time the new corporation operated quarries on a royalty basis, but finally it provided unexcelled supply sources by acquiring one hundred and twenty-five acres of the famous Bedford oolitic-stone land in Lawrence county, Indiana, where are conducted extensive quarries and well equipped mills. Here the company gives employment to one hundred and fifty men and the annual output of cut stone aggregates about three hundred thousand cubic feet. This company has supplied stone for many of the important business and residence buildings in Chicago and other cities, and among the most noteworthy may be mentioned the Weidner office building in the city of Philadelphia, Pennsylvania; the building of the national bureau of engraving and printing, as well as the House office building at Washington, D. C.; the Classic building and Ida Noyes Hall of the University of Chicago, and hundred of others equally important.

WILLIAM L. KERBER

William L. Kerber, president of the representative corporation described in the foregoing paragraphs, was born in Chicago, 1864, and after here receiving the advantages of the public schools he entered Yale University, where he completed a special two years' course of study directly pertaining to the line of industrial enterprise of which he is now a prominent representative. He has been actively identified with the stone business since 1878 and is a recognized authority in all details pertaining to the same. Mr. Kerber has received the thirty-second degree of Scottish Rite Masonry and is an active and appreciative member of the various Masonic bodies with which he is affiliated. He holds membership in the Illinois Athletic Association and the Colonial Club.

In 1889 Mr. Kerber wedded Miss Lena Browdlf, of New Buffalo, Michigan, and they have two daughters, Edna and Helen.

HENRY FÜRST, JR.

Henry Fürst, Jr., is a native of Chicago, born in 1863. He took advantage of the complete course of our public schools and a scientific course in Yale University, then he reentered the stone business in 1882, having been engaged since 1878. Mr. Fürst is affiliated with the Masonic fraternities, a thirty-second degree member and prominent in the Shrine, also popular in the Chicago Automobile Club.

THE H. R. GIBBONS BOX COMPANY

Among the successful industrial enterprises that contribute materially to the metropolitan supremacy of Chicago is that conducted under the title above designated. The enterprise is worthy of special attention in this publication, not only by reason of its present broad scope and importance but also as representing the concrete results gained through the indomitable pluck and energy of the founder, who placed in subordination all other interests to test the consistency of a plan that he had conceived and who evolved a most prosperous business from a nucleus that was represented only in subjective personal vigor, initiative and executive ability and long experience gained in connection with commercial affairs in his native city. The history of the H. R. Gibbons Box Company is best told in a record of the career of its founder and president, and such a review is given in following paragraphs. In a prefatory way, however, it may be stated that this company now operates in Chicago five distinct plants, devoted to the manufacturing of wooden boxes for commercial purposes and to the restoration and sale of second-hand boxes, which latter phase of the enterprise was that on which the business was founded.

Harry R. Gibbons, president of the H. R. Gibbons Box Company, was born in Chicago on the 26th of June, 1862, and is a son of the late Harry R. Gibbons, who established the family home in Chicago in what may be termed the middle-pioneer epoch of its history. The subject of this sketch acquired his early educational discipline in the old Kinzie school, of the Chicago public-school system, and during his vacation periods he found employment in a box factory, while he was still a boy. After his school days he continued his association with this line of enterprise, and incidentally learned all practical details of box manufacturing and business. After a period of seven years given to work along this line Mr. Gibbons, in 1882, obtained a position in the wholesale house of Marshall Field & Company, and with this great mercantile concern he continued to be connected fifteen years, within which he served in various responsible positions and fortified himself thoroughly in knowledge of the wholesale trade. His dual experience, in connection with box manufacturing and commercial business, finally led to his conceiving the idea of making practical use of the thousands of packing boxes

that were usually destroyed after having been once placed in commission for the transferring of goods. He became convinced that there could be created a market and regular sale for these second-hand boxes, especially among smaller shippers. With the courage of his conviction, he finally decided to resign his position with Marshall Field & Company and to attempt to demonstrate in a practical way the feasibility of his plan. Thus it was that in 1897 Mr. Gibbons founded the business of remodeling and selling used packing boxes, and at the initiation of his new service it devolved upon him to educate the prospective customers to the realization of the economy of his plan, as he was able to place in their hands at definitely reduced price, boxes that were substantial and served equally well the place of new boxes. He was the pioneer in this field of enterprise in Chicago and he began operations in a small way, with only three employees. His first business headquarters were established in the rear part of the Robert O. Law building, on Market street, near Madison street. From this somewhat obscure domain he sent out a man with a wagon, to buy up used boxes from grocers and small merchants who had no shipping trade. These boxes were transported to his headquarters, where they were carefully repaired and made practically new. Within six months Mr. Gibbons added a second plant to accommodate his growing business, and this new storage room, on Canal street near Harrison, afforded forty thousand square feet of floor space. Assured of the success of his venture, Mr. Gibbons now increased his force of employees to twenty-eight men, and in his factory were provided the best facilities for the remodeling of all boxes and packing cases that were held to be up to the standard which he had set. In 1900 a third rebuilding factory was established, at the corner of Madison and Throop streets, where Mr. Gibbons leased the old Waverly theater building, which was specially well adapted for the business, with an available floor space of twenty-one thousand square feet and with ceilings so high as to make the storage capacity exceptionally large. In connection with this third establishment is retained a force of thirty-five employees and here also was instituted the manufacturing of new packing boxes, as a supplement to the already large and substantial business in the handling of used boxes.

In 1907 Mr. Gibbons purchased property at 1210 to 1220 West Lake street, and in 1916 he erected on this property a modern and thoroughly equipped factory building to be devoted exclusively to the manufacturing of new packing boxes. This plant is now conceded to be the best of the kind in Chicago and its capacity is fully tested in meeting the trade requirements placed upon it. In 1911 Mr. Gibbons purchased a site at the corner of Central Park and Harrison street, where he erected his factory No. 5. This building affords 28,250 square feet of floor space, and is utilized for both manufacturing and storage purposes, with an adequate force of employees. The Gibbons Box Company now gives employment to a large force of men. The trade at the beginning was of confined order but the facilities of the company's various establishments are now utilized by business houses in all parts of Chicago, besides which an appreciable trade has been developed in the territory normally tributary to the city. In addition to the executive head of the H. R. Gibbons Box Company Mr. Gibbons is vice-president of the Citizens' State Bank of Lakeview, in which attractive suburb is maintained the family home. He has proved himself one of the resourceful and progressive business men of Chicago and has achieved definite and well merited



H. R. GIBBONS

success through his own ability and well ordered endeavors. Mr. Gibbons is a stalwart and active supporter of the cause of the Democratic party and in 1906 he was the unsuccessful candidate of his party for the office of sheriff of Cook county. He is affiliated with the Royal Arcanum, the National Union and the Knights of Columbus, and he and his family are communicants of the Catholic church.

On the 26th of April, 1893, was solemnized the marriage of Mr. Gibbons to Miss Nellie Kennan, of Chicago, her birth having occurred at Whitewater, Wisconsin. The one child of this union is Walter Clark Gibbons, who was born in 1895 and who is now associated with his father's business.

HANSON BROTHERS

At Nos. 525 to 531 North Ada street is located one of the admirable industrial plants of Chicago, and this fine modern manufactory is that owned by Hanson Brothers, who have developed a large and important industrial and commercial enterprise in the manufacturing of improved spring-scales in varied designs and adapted to varied specific purposes. Hanson's "United States Family Scales" have gained wide reputation for superiority of construction and for absolute reliability and accuracy, and on merit alone has been developed the substantial business now controlled by this representative firm of manufacturers. From one of the catalogues issued by Hanson Brothers may consistently be taken the following explanatory and definitely justified statements:

"The Hanson Brothers' Scales of today are the result of twenty-five years' experience in the manufacturing of scales, and during this period a number of important patents have been secured by the Hanson Brothers on special features. Hanson Brothers manufacture scales only, and every scale is made under their personal supervision, besides being tested by them before it leaves the factory. The Hanson Brothers' scales are guaranteed as to workmanship, material and accuracy. That they are better than others is clearly proven by the following details. Our scale boxes are made from one piece of steel, and rest, as they should on a flat bottom. It is natural that this makes the best foundation, as the scales stand solid and do not easily get out of level. Our scales have a removable steel post resting in the center of the weighing mechanism, thus insuring accurate weight. No other scales possess this very important feature. Our scale indicators or hands are tapered to a needle point, by which the divisions are easily read. These hands are made of extra heavy spring steel, and not a soft material that easily bends or breaks. All of the Hanson scales have special hand-made, oil-tempered springs. These springs are manufactured by a special process of our own, and after constant use for an indefinite time will be found as accurate as when they left the factory. There are many other mechanical and scientific principles employed which make our scales superior to all others,—but above all is the fact that our scales are made with care, by skilled workmen, and nothing left undone to make them the acme of perfection. The personal supervision of the Hanson Brothers enters into these scales from the selection of the raw material to the testing out of the finished product."

It may further be noted that Hanson's improved family scales are manufactured in varied designs and sizes and with either slanting or vertical recording dials. The improved dial scales are made also in special designs for the weighing of parcel-post packages up to fifty pounds; the "Crown" postal scale and the "Eagle" merchandise and postal scale, as well as the "Reliable" computing scale, all represent the ultimate of excellence, as do the Hanson dairy scales, vegetable and fruit scales, vendor's scales, and other types manufactured by the Hanson Brothers.

This noteworthy manufacturing enterprise had its inception in 1892, when Marius Hanson established a modest factory at the corner of Randolph and Canal streets, where he utilized a floor space of only two thousand square feet and where all constructive work was done by him and the little force of assistants he was justified in employing. Superior merit of products brought resultant success to the new industry and the business expanded steadily in scope. In 1892, William Hanson, a brother of the founder, purchased an interest in the business, and thereafter operations were continued in enlarged quarters at the original location until 1913, when the brothers completed their present modern manufactory, a brick building of two stories and with an aggregate floor space of twenty thousand square feet. Here a force of thirty skilled mechanics is employed and the business is carried forward with the same thoroughness and energy that have marked its history from the beginning. The products of this well equipped factory are sold by wholesale and jobbing dealers and the trade of the firm extends into all sections of the Union.

MARIUS HANSON

The senior member of the above mentioned firm of Hanson Brothers was born in the town of Svendborg, Denmark, in the year 1865, a son of Albert Hanson and a scion of the staunchest of the fine old Norseland stock. In his native land he received a good common-school education and there also he served an apprenticeship as a machinist and engineer. In 1888, when twenty-three years of age, this ambitious and sturdy young son of Denmark severed the home ties and set forth to seek his fortune in the United States. He made Chicago his destination and for six months after his arrival he was here employed as a machinist by the A. Plamondon Machinery Company. Early in life he had determined to bend every energy to the laudable ambition of establishing himself independently in business, and thus it was that he formulated definite plans to this end. In the late summer of 1888 Mr. Hanson formed a partnership with Christian Drews, under the firm name of Hanson & Drews, and they opened a small machine and repair shop at the corner of Randolph and Canal streets. Operations at first were confined largely to the repairing of tools, but soon the skill of the members of the firm became so recognized that they were called upon to construct and repair gas engines. At the expiration of the first eighteen months Mr. Drews sold his interest in the prospering business to William Hanson, and thus was formed the present firm of Hanson Brothers. From the activities of their job shop the brothers gradually directed their attention to the manufacturing of spring-scales,

and the success that attended this venture led to the development of the present important industrial enterprise controlled by these progressive and energetic brothers. A number of special improvements have been invented and patented by the brothers and the application of the same in the manufacturing of the Hanson scales has contributed in large measure to the superiority of the product and the consequent success of the business. Marius Hanson now gives his attention principally to the directing of the executive and commercial departments of the business and William has the entire supervision of the manufacturing.

The year 1892 recorded the marriage of Marius Hanson to Miss Jeny Jorgensen, of Chicago, who was born in Denmark and the two children of this union are Stanley and Lucille. Stanley Hanson is a graduate of the department of mechanical engineering in the University of Illinois and is now associated with the Hanson Brothers' manufactory.

WILLIAM HANSON

The junior member of the firm of Hanson Brothers was born at Svendborg, Denmark, on the 6th of December, 1867, and like his older brother and business coadjutor he is indebted to the schools of his native place for his early education, besides having there served his thorough apprenticeship as a machinist and engineer. In 1889 he came to American and joined his brother Marius in Chicago. He soon went to Elgin, where he secured a position as toolmaker in the factory of the Elgin Watch Company, and one year later he was promoted to the position of foreman of his department. This latter position he resigned one year later, in order to become associated with his brother in independent business, and it was at this juncture, in 1892, that he purchased the interest of Mr. Drew, the original partner of Marius Hanson, as noted in a preceding paragraph. In 1893 William Hansen married Miss Anna Hanson, of Chicago, she being a native of Denmark. Mr. and Mrs. Hanson have three children,—Vera, Grace and William, Jr.

A. H. ANDERSON COMPANY

At 1213 Fulton street is located the modern and effectively conducted brass foundry of this company, and the upbuilding of the substantial industrial enterprise has been due to the ability, energy and progressiveness of Axel H. Anderson, who has proved steadfast and true in all the relations of life and who has pressed forward to the goal of worthy prosperity, so that he is fully justified in his retirement from active supervision of the business founded and developed by him. He still appears in an advisory capacity in connection with the enterprise and continues as president of the company, but the active management of the establishment and business is now reposed in his son, who is fully upholding the prestige of the family name. The foundry is fully equipped for the turning out of the best class of work in brass aluminum and bronze, and from a business of purely local and restricted order advancement has been through effective service

and fair and honorable dealings until the trade has been extended in the various parts of the territory normally tributary to the western metropolis, while the reputation of the concern is a large and definite commercial asset. The history of this flourishing and representative industrial enterprise can best be reviewed in direct connection with the record of the career of the founder, and the data essential to symmetrical presentation of the history of the company are therefore to be found as incidental to the sketch that follows:

AXEL H. ANDERSON

Axel H. Anderson, who has proved a gallant soldier in the world's noble army of productive workers and who by earnest and honest endeavor has achieved large and worthy success, was a lad of about twelve years at the time of the family's emigration to the United States, and he was reared to maturity in Chicago, where his active association with manufacturing industry has covered a period of many years.

Mr. Anderson was born in Norway, in 1853, and his rudimentary education was obtained in his native land. In 1865 he accompanied his parents to the United States and the family home was forthwith established in Chicago, where he was able to continue his studies in the public schools for a time, but his broader education has been gained in the school of practical experience, involving association with men and affairs during a course of a signally active and successful business career. As a lad of fourteen years Mr. Anderson entered upon an apprenticeship in the brass foundry department of L. Wolf Manufacturing Company, and after the completion of a thorough apprenticeship he was employed as a journeyman artisan in the shops of the Owens Brass Manufacturing Company one of the largest concerns of its kind to be found in Chicago at the time. In 1876 Mr. Anderson formed a partnership with his brother Michael and they opened a small brass moulding shop. About one year later the partnership was dissolved and Axel H. Anderson then established an independent enterprise of the same order, his little foundry having been in the Lynn building, where he used about two thousand square feet of floor space and gave employment to two moulders, his own labors having been fully as assiduous as those of his employes, besides which he met also the exactions of management and general commercial administration. The high grade of the work turned out and the careful and honest policies adopted caused the little enterprise to expand and within a short time the corps of moulders was increased to eight men. In 1881 Mr. Anderson leased larger quarters at 552 Washington street and in the meanwhile he had purchased property at what is now 218 North Ann street. In the same year 1883 he erected on his property a permanent and modern foundry factory building, and the same has been enlarged from time to time, to meet the demands of the constantly growing business, while a separate office building has been erected at 1213 Fulton street. The plant today gives an aggregate floor space of fourteen thousand five hundred square feet, the equipment and appointments are of the best modern type in all details, and in this respect no similar establishment in Chicago can justly claim priority. With cumulative success Mr. Anderson

held firmly to his deep democratic impulses, and his constant and kindly interests in his employes gained to him their confidence and high esteem so that the most gracious relationship obtained at all times and mutual co-operation brought the best result in the advancement of the business. In the construction of his manufacturing plant Mr. Anderson made very possible provisions for the comfort and wellbeing of his employees, and many have continued in his service for years, their appreciation of his fairness and kindly consideration being on a parity with his loyal interests in their welfare so that labor troubles have never interfered with the prosecution of the business. In the establishment at the present time the corps of employees average from sixty to seventy-five men and the steady growth of business still continues. In the spring of 1917 Mr. Anderson effected the incorporation of the business, which he has previously conducted in an individual way, and he then assumed the office of president of the A. H. Anderson Company, with his son Fred R. as vice-president and secretary, the company thus being a close corporation. After this wise readjustment the honored founder of the business felt justified in retiring and placing the control of the enterprise in the keeping of his son, who had literally grown up in the business and familiarized himself with every practical detail of operation as well as with the commercial phases of the enterprise. The company has membership in the Chicago Brass Manufacturers' Ass'n and the Brass Manufacturers' and Dealers Association.

Axel H. Anderson has ever stood as a loyal and public spirited citizen, though he has had no desire to enter the arena of practical politics or to seek official honors. His patent of nobility rests its claim in character and achievement, and he has contributed his quota to the industrial and commercial progress of Chicago.

Mr. Anderson married Miss Vina Stoveland, of Chicago, a native of Norway, and they have three children Maude, who is the wife of Frank Walinski, of Chicago; Irene, who is the wife of Edward Hanson, of this city, and Fred R. of whom more specific mention is made in the appending paragraphs.

FRED R. ANDERSON

Fred R. Anderson, is vice-president and secretary of the A. H. Anderson Company, and as general manager of the business he is proving a most able and worthy successor of his honored father, who has retired from active business after many years of earnest and purposeful endeavor.

Born in Chicago on the 26th of November, 1895, Fred R. Anderson profited fully by the advantages of the public schools and supplemented this discipline by a course in the Northwestern Business College. At the age of sixteen years he initiated a practical apprenticeship to the trade of brass moulder and finisher and this training was gained in his father's factory and thus under the most effective conditions. His ambition led him to profit fully in each advancing stage of application and after gaining full knowledge of all operations in the work shops of the establishment he familiarized himself fully with the office details so that he was admirably fortified when on the 1st of January, 1917, he

assumed the active management of the business and relieved his father from the manifold responsibilities that had long rested upon him. Like his father Mr. Anderson has placed true values upon work, and has the utmost respect for the dignity of honest toil. Himself a productive worker he is in full harmony with the sentiments and ambitions of his employes, and the relations existing between them are of ideal order. He is one of the vigorous and ambitious young business men of his native city and is proving himself well fitted for the successful management of the industrial enterprise founded and long controlled by his father. In the time-honored Masonic fraternity he has completed the circle of each the York and the Scottish Rites, in the latter of which he has received the thirty-second degree; besides which he is affiliated with Medinah Temple of the Mystic Shrine.

JEWELL BELTING COMPANY

Most interesting is the history of this corporation in connection with the annals of American industrialism, for the business virtually had its inception in 1770, when Asahel Jewell, a sturdy New England citizen of ability and enterprise, established his tanning vats in the vicinity of what is now the city of Winchester, New Hampshire, and became the colonial founder of a business that has continued to perpetuate his name during the intervening period of nearly a century and a half. Even in the inceptive period of industrialism in New England Asahel Jewell had as a dominating motive in establishing his business the determination to produce leather of quality definitely superior to that in common use at that time. This object he attained in the most emphatic sense. His primitive tan vats were made by hewing down trees of large diameter, hollowing them out, in much the same manner as that by which the Indians produced their canoes, and making these the receptacles in which he tanned the skins and hides that were brought in by his neighbors. Facilities, as a matter of course, were of most rudimentary order, and it is a matter of record that he was assisted by members of his family in peeling bark from trees of the nearby forest and preparing the same for tanning purposes by pounding it with hammer, with a rock as the opposing base. Thirty years later his son Asahel was found conducting the enterprise and holding strictly to his father's policy of producing the best quality of leather. Asahel Jewell, Jr., however, expanded the scope of the industry, and this is conclusively shown in an old ledger that was kept by him and that is now in the possession of the Jewell Belting Company, for in the same appears record of the sale of the first Jewell leather belt, under date of June 6, 1826, and the entry of the sale designates the product as a "lathe strap."

About 1845 Pliny Jewell, a son of Asahel, Jr., abandoned the ancient tannery at Winchester, New Hampshire and sought a broader field of activity. In Hartford, Connecticut, he took possession of an old barn, over the double doors of which he placed his name, and here he began the manufacturing of Jewell belting on a larger scale, the while he retained the ancestral policy of producing none but the best. The business expanded rapidly in scope and importance, Mr. Jewell enlisted the services of his sons, and by successive stages of growth in the passing year was developed the extensive manufacturing plant of the Jewell Belting Com-

pany at Hartford. From first to last the reputation of the Jewell products has constituted the staunchest and best of commercial assets in connection with the business and the concern as an organization has retained customers over a continuous period of fully sixty-five years. Ripe experience of technical and commercial order has been brought to bear in the business during the long years and at each successive stage has been used the most modern machinery and accessories available at that stage.

In a ledger kept by Pliny Jewell, covering the interval between 1847 and 1851, there is recorded, under date of the year 1848, the sale of a belt to Russell & Erwin, and virtually seventy years later the same firm, which has developed into the American Hardware Corporation, is still represented on the list of patrons of the Jewell Belting Company. As early as 1850 the celebrated Seth Thomas Clock Company, satisfied with nothing but the best, made regular use of Jewell belting, and this industrial corporation, one of the greatest of its kind in the world, still utilizes Jewell belting in its extensive manufacturing plant. The Collins Company, of Collinsville, Connecticut, has made use of Jewell belting consecutively from 1853 to the present time, and these are but two of many similar and interesting instances in connection with the history of the Jewell Belting Company.

Jewell belting is still produced by the original, slow but effective oak-bark process, demanding about six months to perfect the tanning of the leather, and nothing save pure oakbark is used in the tanning process in the large tanneries though scientific methods and most modern mechanical appliances now facilitate operations and enable the company to maintain its position of leadership in its industrial field. There is produced a special Jewell belt for every purpose in which belting is demanded, and the Jewell Belting Company figures as America's largest manufacturer of continuous round belting. For every purpose to which round belting is applied Jewell belts are manufactured and placed on spools, in lengths varying from one hundred to five hundred feet. The Jewell lace-leather and cut lacing products are conceded likewise to be superior to all other products of the kind. Jewell chrome belting is absolutely water-proof, has great tensile strength, will not slip, is very pliable, and withstands the action of water, oil, steam, gases, acids and all variations in temperature, this admirable belting being sold under an absolute guaranty on the part of the manufacturers.

This venerable and progressive concern has made tangible recognition of the great industrial and commercial importance of Chicago by establishing in this city its western branch, which occupies a modern brick building of mill construction, four stories and basement in height and one hundred and thirty by one hundred and sixty feet in dimensions. This western branch establishment, now at 2837-41 South La Salle street, was opened in 1897, with Frederick G. Davis, as manager, and the original headquarters were in a building at 175-7 West Lake street, where operations were continued until 1917, in January of which year removal was made to the present large and well equipped establishment. A. E. Silk succeeded Mr. Davis as western manager, and July 1, 1910, the latter was succeeded by the present efficient incumbent, James C. Gray, who came to Chicago and assumed the position of assistant general manager in 1907, this position having been retained by him until he was advanced to his present responsible office as chief executive in charge of the company's business through-

out the central and western states and extending to the Pacific coast. In this extensive territory the company retains the services of twenty-five traveling representatives, and an equal number of persons is employed in the Chicago offices of the concern.

At Hartford, Connecticut, the Jewell Belting Company has one of the world's largest factories devoted to the production of leather belting, and in the great establishment employment is given to five hundred operatives. At Rome, Georgia, the company maintains a large and modern tannery for the tanning of the belt-leather used in its Hartford plant.

Since the year 1905 the Chicago branch of the Jewell Belting Company has represented also, as western agent, E. F. Houghton & Company, of Philadelphia, manufacturers of the celebrated "Vim" brand of mechanical leathers and packings, lubricating oils and greases, and other special lubricants for all manner of mechanical and industrial purposes. The Houghton products likewise are standard and are used in all parts of the industrial world, the western representatives having always in stock the excellent descriptive catalogues, booklets and bulletins issued by this concern for the benefit of the trade.

James C. Gray, general manager of the western branch of the Jewell Belting Company, has been concerned during his entire active career with the manufacturing and, use and sale of leather belting, is an authority in all details pertaining to this line of enterprise, is well known to the trade throughout the United States and has proved a distinct acquisition to the complex industrial and commercial life of the western metropolis.

S. A. MAXWELL & CO.

The name "Maxwell" and the words "Wall Paper" have been so closely associated for over half a century, that to many people one cannot be mentioned without a thought of the other.

The history of those years since 1851 is an extremely interesting one and is one of progress and steady expansion; it has not been a spectacular and spasmodic growth, but a healthy and conservative one, that is indicative of strength and inspiring of confidence.

In these days of giant industries that mushroom-like have sprung into existence over night, the growth of S. A. Maxwell & Co. is a marked contrast.

To tell the tale of this house is to relate the story of a father and his sons, for the business was originally started by the senior Maxwell in 1851, when he embarked in the book and stationery business, with wall paper as a side line, in the small Illinois town of Lacon. It is related of Mr. Maxwell that he was a man of sterling worth, with an unusually likable personality. A small but interesting detail is the fact that his portrait still appears on the firm checks, an old custom, but showing the respect in which his memory is held. With a great reverence for the rights and privileges of others, by precept and example, he instilled in the minds of his sons the great principles of justice and fairness in all business dealings.

Those principles, reinforced by business acumen and thrift inherited from a



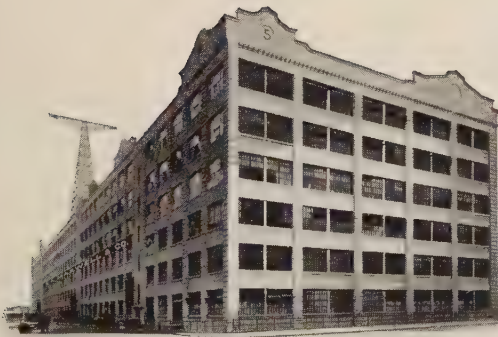
PITTSBURGH



CHICAGO RETAIL
74 East Randolph Street



CHICAGO WHOLESALE
3636-46 Iron Street



NEW YORK



KANSAS CITY

S. A. MAXWELL & CO.

long line of Scotch ancestors, brought their reward, and the business having prospered, it was moved to Bloomington, Ill. As the sons, of whom there were three, reached years of usefulness, they took their places in the store and eventually each was taken into partnership.

After many years of assisting his father, the eldest of the sons, Samuel Augustus Maxwell (who died in 1909) finally became head of the business. He also later became prominent in wall paper affairs of the country and was one of the active organizers of the National Wall Paper Co., afterwards dissolved.

In 1882, the business was moved to Chicago, where for many years it was prominent on Wabash Avenue, at the number which is now 15 and 17 South Wabash Avenue, and after a time the book and stationery end of the business was abandoned and the entire attention given wall paper and window shades.

After the dissolution of the National Wall Paper Co., S. A. Maxwell & Co. acquired a house in New York, for many years on Crosby Street but which now occupies great space in one of the Bush Terminal Buildings on the Brooklyn water-front. There the direct railroad tracks enable quick dispatch to be made to all parts of the country and assist in making the "Maxwell Service" altogether satisfactory.

Later a house was opened in Kansas City, Mo., from which shipments to the surrounding country are made, thus enabling their customers in that section of the United States to enjoy the same good service as received by those whose towns are tributary to New York and Chicago.

In 1913 a mammoth building was erected in the Central Manufacturing District of Chicago, for use as general offices and warehouse. This building is of the very latest type of construction and equipped with every device that will promote safety and expedite shipments. Private railroad switches make it possible to load or discharge six railroad cars at a time. This method of loading direct into cars not only makes for quick shipments but enables goods to reach their destination in better order.

This building is five stories high with basement, is 100 feet wide by 310 feet deep. The entire second floor is occupied by a department for the converting of Window Shades. In addition to being the largest distributors of Wall Paper in the world, this house is also the largest converters of Window Shades.

At the time of the opening of the new Chicago building, a handsome retail store was opened at 74 East Randolph Street, between Wabash and Michigan Avenues.

In 1915, the Pittsburgh house of Kerr & Snodgrass became affiliated with the house of Maxwell; thus the older organization received added strength by union with this well-known Pennsylvania house.

To give an idea of the magnitude of business done, 60,000 square feet of floor space is occupied by the New York house, 50,000 by the Pittsburgh house, while the Chicago wholesale business alone occupies 186,000 square feet none of these figures include the outside storage space it is frequently necessary to maintain.

The slogan of the House of Maxwell has always been "Service to the trade" accompanied by an unswerving adherence to the principle that the dealers prosperity should be promoted and aided in every way. This has largely accounted for the great loyalty of the Maxwell trade and the fact that their

customers are found in every State in the Union, in Alaska, in Cuba, in Australia and in Mexico.

The present (1917) members of the firm are Edward E. Maxwell and Charles E. Maxwell.

Edward E. Maxwell was born in Lacon, Ill., on December 9th, 1856. In 1880 he married Miss Mary C. Moore, daughter of Asa H. Moore of Bloomington, Ill. They had a family of three children: Louise and Margaret, who died in childhood, and a son, Augustus M., a graduate of Wesleyan University of Middletown, Conn., and a D. K. E., who enlisted in the army at the entrance of the United States in the World War. Mr. Maxwell is a member of the Union League Club, the Chicago Athletic Club, the South Shore Country Club, the Central Manufacturing District Club, and Vice President of the Hamilton Investment Co. His wife is a prominent member of the Daughters of the Mayflower Society, being a direct descendent of Governor Bradford.

Charles E. Maxwell was born in Bloomington, Ill., in 1861. On May 19th, 1886, he married Miss Emma M. Shaw, daughter of Gilbert B. Shaw of Chicago. Their children are Charles E. Jr., a graduate of Yale and a Psi U who enlisted in the Navy at the time the United States entered the World War; Adelaide (married T. J. Miller), and Gilbert B. S., who joined the Headquarters Company of the 149th U. S. Artillery which was a part of the Rainbow Division early sent to France. Mr. Charles E. Maxwell is a member of the Union League Club, the Chicago Athletic Club, and the Central Manufacturing District Club. He is also Vice President of the Naugle Pole & Tie Co.

H. G. SAAL COMPANY

Special recognition is given in this publication to the above company, generally acknowledged as the leading manufacturers in the United States and Canada, of the most efficient Talking Machine Motors known to the musical world. In construction these motors are mechanically correct, and in running and winding operations they are absolutely noiseless. The daily output of the factory in this department averages five hundred motors, and the present equipment has sufficient capacity to more than double this production.

Their product also includes a varied line of high grade Hardware Specialties, such as the Clean Cut, Jumbo, the Peerless, the Ever Ready, Can and Bottle Openers, Peerless Cherry Pitter, and numerous other household articles, most of which are of original design and are covered by strong letters of patent owned and controlled by the company. Thousands of assorted can and bottle openers are turned out daily in this branch of the business.

The H. G. Saal Company has earned for itself a world wide reputation for the high quality of workmanship and the accuracy of construction and precision, so preeminently prominent in all the tools, dies, jigs, gauges, models, etc., produced by this factory.

Special mention must also be made of the high grade of work done by this concern in all its various departments including experimental work and models of all kinds, light and heavy punch press work, screw machine products,

metal specialties of every description, polishing, plating, burnishing and enameling in all their branches, all of which are readily recognized by the earmarks of high merit so peculiar to this company's products.

The plant is operated day and night and the company retains constantly in its employ fully 350 skilled mechanics.

This business was founded in 1900 by Henry G. Saal, and its inception was of most modest order. The original shop was established on Wilson avenue, and began operations with a capital of \$71.00 and an indebtedness of \$800.00. Mr. Saal continued operations in these quarters until 1909, when removal was made to the present modern plant, a building erected and equipped with all the latest and best machinery and appliances that money can buy, and especially adapted for the purpose to which the plant has since been devoted. This now large and well ordered manufacturing institution, which is a model of neatness and general lay-out, greatly admired by all who have seen it, is situated at the corner of Montrose and Ravenswood avenues, Chicago. The ground space occupied by the factory and warehouses being 100 x 112 ft. in area. The factory, a substantial building of two stories, has an aggregate floor space of 27,000 square feet, and such are its mechanical equipment and general facilities, as to mark it as one of the model manufacturing plants, not only of Chicago, but also of the entire United States. So great is the demand placed upon this factory's products that its capacity is taxed to the utmost, and the company has purchased adjoining vacant ground on which will be erected a two-story addition, 200 x 100 feet in area, that will greatly increase the present capacity of the plant.

Mr. Saal has been granted 25 patents on devices of various kinds invented by him and now manufactured by this company, of which he is president. In addition to being a man of marked inventive talent, Mr. Saal is also an expert mechanic of exceptional ability, and a rare genius in his line, which qualifications have admirably supplemented his fine executive ability in connection with the development and upbuilding of the important industrial enterprise of which he has been the executive head from the beginning. He is one of the substantial and representative captains of industry of the western metropolis.

The officers of the company are H. G. Saal, president and manager, and E. William Dreibholz, secretary and treasurer.

THE WESTERN PETROLEUM COMPANY OF ILLINOIS

In suite 730-36 Continental & Commercial National Bank Building, on La Salle street, are established the offices of this representative Illinois corporation actively engaged in the handling of petroleum products on a large scale, the business of the company having shown a remarkable expansion each succeeding month since active operations were instituted. The company was organized and incorporated in October, 1916, for the purpose of handling and distributing at wholesale all kinds of petroleum products. The company was incorporated under the laws of Illinois and with a paid-up capital stock of ten thousand dollars, which has since been increased to seventy-five thousand dollars. The officers of the corporation from the beginning have been as here designated: T.

Shelby Black, president; Ernest L. Hughes, vice-president and treasurer; and David S. Stansbury, secretary. The new company began operations under the most auspicious conditions and influences, as all of the active executives are energetic and enterprising oil men of experience and sterling character, well known to the leading oil producers in all sections of the Union and with records that insure them of the unqualified confidence of the refiners and large consumers of both crude and refined petroleum products. Consequently the trade of the Western Petroleum Company of Illinois is not confined to any one section but its distributing territory includes nearly every state in the Union, besides which favorable connections insure a substantial Canadian trade. The business has shown an increase of more than one hundred per cent each successive month since it was established and a large and substantial trade is controlled in the Chicago district and the Central states. The company is equipped to make prompt delivery of fuel oils, road oils, gas oils, lubricating oils and greases, waxes and distillates, etc., in tank-car lots, and has facilities also for the supplying all grades of crude oils. In this well established oil brokerage business the company handles products from all of the leading oil fields including those of Pennsylvania, Kentucky, Oklahoma, Kansas, Texas and California. At the time of this writing, in the summer of 1917, the company is handling more than one hundred tank cars of petroleum and its products daily, and the contemporary shortage of cars is the only thing that prevents a still greater expansion of the business. The Western Petroleum Company of Illinois has a virtual coalition with the Western Petroleum Company of New York, which was incorporated in June, 1917, with a capital stock of fifty thousand dollars and which has taken over all of the eastern accounts of the Western Petroleum Company of Illinois, Ernest L. Hughes, who is vice-president and treasurer of the latter corporation, being the president of the Western Petroleum Company of New York, and T. Shelby Black, president of the Illinois corporation, being a stockholder and vice-president of the New York company, for which he acts in an advisory capacity. The New York company absorbed the business of J. E. Gerredotte & Company, at 17 Battery place, New York city, where the offices are still maintained, a general export and brokerage business in petroleum being conducted by the New York company.

T. Shelby Black, president of the Western Petroleum Company of Illinois and vice-president of the Western Petroleum Company of New York, is an executive of wide experience in connection with the oil industry and is well and favorably known to the leading producers and refiners of the country. He was for six years sales manager for the Sinclair Refining Company, at Chicago, and he resigned this position to accept a similar office with the Oil Marketing Company of Oklahoma, with headquarters in Chicago. Of the latter position he continued the able and progressive incumbent until he resigned the same to become one of the principals in the organization of the Western Petroleum Company of Illinois. Mr. Black is known as a business man of marked initiative and administrative ability and the policies which he has defined have been potent in the development of the business of the companies with which he has identified himself and the success of which is certain to be cumulative under his executive direction. He and Mr. Hughes, the vice-president, are the controlling stockholders of Western Petroleum Company of Illinois, and as both

give their personal supervision to the business, efficiency of service is assured, with coincident expansion of the enterprise each successive year. Both are active members of the Independent Oil Men's Association and the Chicago Petroleum Club.

Ernest L. Hughes, vice-president and treasurer of the Western Petroleum Company of Illinois and president of the Western Petroleum Company of New York, was for a long period of years chief of the fuel-oil department of the Oil Marketing Company of Oklahoma, and he is known as one of the best informed men in the country in all details pertaining to the production, uses and marketing of fuel oils, so that his counsel, always available, is certain to prove of distinct value to the patrons of the two companies with which he is identified in an executive capacity and to the success of which his ability and efforts are contributing in large degree.

THE SIGWALT MANUFACTURING COMPANY

Consistently designated as the "Pioneer Press People," this concern represents one of the large and important industrial enterprises of its kind in the United States and its history has been one of normal and steady growth from a status of comparative insignificance to the plane of extensive and far extended operations in the manufacturing and sale of high-grade seal-presses and also the best type of smaller and hand-operated printing presses for private and commercial purposes. The printing presses are manufactured under the names of "Nonpareil," and "Chicago," and all are of the highest grade. The "Nonpareil" presses, all equipped with self-inking facilities of improved order and all operated by hand levers, are manufactured in five different styles and sizes, and range in price from \$10.00 to \$40.00. The "Chicago" presses, in three styles, are placed on the market at still lower prices, the highest of which is six and one-half dollars. These prices are, as a matter of course, subject to change in consonance with varying industrial conditions. The Sigwalt seal presses have been in use for more than half a century, are sold in all parts of the Union, as well as in foreign countries, and constitute the ultimate standard of excellence in the numerous designs and sizes in which they are manufactured to meet varying demands. From a pamphlet issued by the company are taken the following pertinent extracts as touching the products of this old established corporation: "Sigwalt printing presses combine both educational and practical features; they mould character and build brains for young men; they make spare moments profitable and frequently are forerunners of permanent business. They are not toys. From the moment that an intelligent young man comes into possession of a Sigwalt press, both his hands and his head come in for preliminary training, and he unwittingly teaches himself the foundation of thrift, self-reliance, precision and value of economy." It may further be stated that certain of the presses manufactured by this company transcend the functions of mere amateurism in connection with the "art preservative of all arts," as they are available for the turning out of the best grade of minor printing work for use in connection with commercial and general business enterprises. "Sig-

walt printing presses are sold and displayed by all leading dealers. They should be featured and pushed both for their educational value and their real merit." The modern plant owned and utilized by the Sigwalt Manufacturing Company is located at 3648-58 Armitage avenue, and the company supplies to the trade not only the various types of printing and seal presses manufactured but also the various accessories demanded for the same, including type, cases, printer's furniture, etc. Of the inception and development of the business of this company more adequate description may be given through the following review of the career of the venerable and honored founder of the enterprise.

John Sigwalt, the founder and president of the Sigwalt Manufacturing Company, was born in the province of Alsace, France, which has been the stage of pitiless strife and devastation incidental to the great European war now raging, and the date of his nativity was February 2, 1836. He is a son of John and Barbara (Mattins) Sigwalt, and in his native land the father followed the trade and vocation of weaver. In 1852 John Sigwalt, Sr., came with his family to America and settled on a farm near Long Grove, Lake county, Illinois. There he developed a productive farm and through his well ordered endeavors acquired a full measure of independence and prosperity. He remained as one of the representative agriculturists and honored citizens of Lake county until his death, at the venerable age of eighty-five years. John Mattins, the maternal grandfather of the subject of this review, was the pioneer representative of the two families in the Long Grove district of Lake county, and he likewise attained to the age of eighty-five years. In his native province John Sigwalt of this sketch acquired his early education and there also he began an apprenticeship to the trade of locksmith. He was not yet sixteen years old when he accompanied his parents to America and his first productive occupation in this country was given when he entered the employ of the P. W. Gates Company, as a machinist, the establishment of this concern having been at the corner of Canal and Washington streets, Chicago. Four years later Mr. Sigwalt left the employ of this company and went to Ottawa, Illinois, where he entered the employ of the late Judge John D. Caton and a man named Doyle, who were there associated in a manufacturing enterprise that virtually formed the nucleus round which has been developed the present great industry of the Western Electric Company. Within the year he was thus employed Mr. Sigwalt invented and patented a sewing machine, and after severing his connection with the concern mentioned he began on a small scale to manufacture the machine which he had invented and which was given his name. To compass this end he went to South Bend, Indiana, where he effected the organization of the Sigwalt & Wellman Company and established a factory in which was turned out an average of twelve of the Sigwalt sewing machines each week. Within a year after the initiating of the business Mr. Sigwalt was sued for infringement of patent, by the Grover & Baker Sewing Machine Company, and as he had not sufficient financial reinforcement effectively to defend his rights and his invention, he decided to retire from the field. Upon his return to Chicago he was offered a lucrative position by the Singer Sewing Machine Company, and with the co-operation of other experts he perfected the improved Singer machine that gained wide popularity and use under the title of the "Family sewing machine." Three millions of these machines were manufactured and sold

by the Singer Company, and after severing his association with this corporation Mr. Sigwalt organized the Sigwalt Sewing Machine Company. The factory of the new company was established in the Chicago suburban district now known as Arlington Heights, and later removal was made to a building at the corner of Dearborn and Kinzie streets, this plant having been destroyed in the historic Chicago fire of 1871. Without delay operations were resumed, by the establishing of a general machine shop at the corner of Fulton and Morgan streets. Mr. Sigwalt was granted a patent on an improved railroad-ticket stamp that had been invented by him and the use of which was adopted by the Michigan Central Railroad Company and the Pullman Car Company. In connection with the successful introduction of this invention Mr. Sigwalt disposed of his patents and other interests in the sewing machine business and confined his attention to the manufacturing of the railroad-ticket stamps. His manufacturing plant was removed to Randolph and Canal streets and after a disastrous fire in these headquarters removal was made to a building at the corner of Jefferson and Union streets.

In 1880 Mr. Sigwalt began the manufacturing of a general line of stamping machines and seal-presses invented by him, and, after another fire that entailed appreciable financial loss, he established in 1894 a well equipped factory at the corner of Washington boulevard and Union street. Here he erected a modern three-story industrial building, with an aggregate floor space of thirteen thousand five hundred square feet, and here unqualified success and rapid expansion marked the conducting of the business, which has, in fact, shown from the beginning, in 1880, the distinctive elements of success,—excellence of products and effective service. The present large and modern plant of the company, at 3648-58 Armitage avenue, is unexcelled in equipment and facilities and in the factory employment is given to an average force of fifty skilled artisans. The Sigwalt Manufacturing Company was incorporated on the 7th of February, 1883, with a capital stock of one hundred thousand dollars, and the officers of the corporation have been the same from that time to the present. John Sigwalt, though now venerable in years and virtually retired from active business, is still the president; his brother Charles, who has never been active in the business, is vice-president; and Charles W. Taylor, a nephew of John Sigwalt, is secretary.

In 1911 John Sigwalt, after many years of earnest and fruitful endeavor, retired from active business, and in the gracious evening of his life he is enjoying the well earned rewards of former productive service,—vigorous in both mental and physical powers and honored by all who have come within the compass of his kindly and benignant influence. He celebrated his eighty-first birthday anniversary in 1917, and is a fine representative of the pioneer element in the industrial Chicago of the past and the present. He is affiliated with both the York and Scottish Rite bodies of the Masonic fraternity and he still maintains his spirit of liberality and public spirit as a citizen, taking a deep interest in all things pertaining to the great western metropolis which has been the stage of his successful endeavors and to the civic and industrial advancement of which he has contributed his quota.

In 1860 Mr. Sigwalt wedded Miss Ellen Mansfield, and she is survived by two children,—Alice, who is the wife of Dr. Frank Porterfield, chief surgeon of the Illinois Central Railroad, with residence at Waterloo, Iowa; and Frank

Sigwalt, who is superintendent and master mechanic of the Sigwalt Manufacturing Company. The second marriage of Mr. Sigwalt was solemnized in Chicago, when Miss Lena Lauer became his wife, she being a daughter of the late Christopher and Christine (Herber) Lauer. The only child of this union died in infancy.

Charles W. Taylor, the vigorous and progressive secretary of the Sigwalt Manufacturing Company, was born in Chicago on the 14th of April, 1872, and is a son of Robert Taylor. He continued his studies in the Chicago schools until he had profited by the advantages of the high school and at the age of seventeen years he entered the employ of Marshall Field & Company, with which great Chicago concern he remained ten years, having become a successful salesman in the hardware department of the wholesale house. In 1899 Mr. Taylor resigned his position and accepted that of stenographer for the Joint Rate Inspection Bureau, formed for official railway inspection, and of this position he continued the incumbent until 1904, since which time he has been secretary of the Sigwalt Manufacturing Company. Since the retirement from active service on the part of the venerable president of the company the general direction and supervision of the business and commercial interests and executive affairs of the company have devolved upon Mr. Taylor, who has proved himself equal to all responsibilities and exigencies. In the Masonic fraternity he has received the chivalric degrees, as a member of Humboldt Park Commandery of Knights Templars, and he is affiliated also with Medinah Temple of the Mystic Shrine.

Charles Sigwalt, the vice-president of the Sigwalt Manufacturing Company, was born and reared in Chicago and is now living practically retired in the attractive suburb of Arlington Heights. He has not taken an active part in the management of the business of the company mentioned but has other important capitalistic and business interests that have required much of his time and attention.

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